BROWNFIELDS ASSESSMENT
FOR
SITE I, FORMER MCHENRY AUTO PARTS PROPERTY
FREDERICK, FREDERICK COUNTY, MARYLAND

APRIL 2003

Prepared by: Maryland Department of the Environment
1800 Washington Boulevard, Suite 625
Baltimore, MD 21230

Prepared for: City of Frederick
101 North Court Street
Frederick, Maryland 21701

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ATACHMENTS

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LIST OF ACRONYMS

1122TECA	1,1,2,2-tetrachloroethane
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethyl benzene, Xylene
cPAHs	Carcinogenic Polynuclear Aromatic Hydrocarbons
DRO	Diesel Range Organics
EPA	United States Environmental Protection Agency
GRO	Gasoline Range Organics
gpm	Gallons per minute
MDE	Maryland Department of the Environment
µg/kg	microgram per kilogram
mg/kg	milligram per kilogram
NGVD	National Geodetic Vertical Datum
OCP	MDE Oil Control Program
PVC	Polyvinyl chloride
SVOC	Semi Volatile Organic Compound
TPH	Total Petroleum Hydrocarbons
USTs	Underground Storage Tanks
VOC	Volatile Organic Compounds
XRF	X-ray fluorescence

EXECUTIVE SUMMARY

On December 18 and 26, 2002, Maryland Department of the Environment (MDE) conducted a Brownfields Assessment at the Property know as Site I, in Frederick County, Frederick, Maryland. This study was undertaken through the MDE Environmental Restoration and Redevelopment Program at the request of the City of Frederick. The City of Frederick acquired the former McHenry Auto Parts Store property (designated Site I) in 2002 as part of a development program and to create the East Street extension along the path of an old railroad spur that was no longer used. Prior to initiating the Brownfields Assessment, MDE conducted a file and map search to determine the historical use of the land and to create a workplan that outlined the site investigation methodology and objectives (MDE, December 2002).

The Site I property occupies a 1.3 acre parcel of land at the intersection of East Patrick and East Street in Frederick, Maryland. The former store building is currently used for storage and as a homeless shelter in winter months. The building is conjoined with the next-door property structure known as the Chicken Man property. Based on available records, the Chicken Man property was previously a gas/service station and convenience store. The Chicken Man property is a known contaminated site that has been impacted by leaking underground storage tanks (USTs) and other contaminant sources. MDE's Oil Control Program (OCP) previously operated a groundwater treatment system at the Chicken Man property. Groundwater treatment was terminated due to the expiration of the cleanup funding and contaminants such as petroleum hydrocarbons and naphthalene remain in the groundwater below the property.

As part of the Brownfields Assessment, MDE collected 15 soil samples (that includes one duplicate) and three groundwater samples. Soil samples were screened within the MDE soil laboratory and 40% of the samples were submitted to MARTEL Laboratories, Baltimore, Maryland, for confirmatory analyses. Three groundwater samples were collected from two monitor wells installed at the property and were submitted to MARTEL for analysis. Once the analytical data were received they were formatted and submitted to a State toxicologist for analysis.

Based on the Brownfields Assessment, elevated concentrations of metals, pesticides, and semi-volatile organic compounds (SVOCs) were detected within fill material below the parking lot on the northern and western sides of the building. These contaminants are not consistent with leaking USTs and do not match the contaminants observed at the next-door Chicken Man property. It is possible these contaminants are associated with the old railroad spur that once passed through the area or perhaps fill generated during the operation of an old Coal and Ice business that operated at the property prior to 1930.

During the installation of MW-1, seven drums of free product and groundwater were generated. A sample of the emulsion created by this mixture was submitted to MARTEL for analysis. Elevated levels of metals, SVOCs, and volatile organic compounds (VOCs) were detected within this sample. Based on the SVOCs detected within this sample, it appears that the free product may have originated from possibly creosote or coal gasification residuals. VOC samples collected from MW-1 and MW-2 contain gasoline derivative compounds (benzene, toluene, xylene) and are consistent with gasoline contamination from leaking USTs. Therefore the origin of the contaminants detected at MW-1 could reflect multiple sources, or types of source products, rather than simply leaking USTs that are known to have existed at the next door property.

Although the source of all the contaminants below the Site I property is not clear, the Brownfields Assessment indicates that the groundwater and soils below the property are clearly impacted. The toxicological assessment stated that VOCs and mercury are contaminants of concern. Groundwater use restrictions, further groundwater and soils investigation, and further delineation of mercury detections within the fill to the west of the property should be evaluated should development of the property be undertaken.

MDE believes that it would be in the best interest of all parties that potential buyers of Site I property consider entering the Maryland Voluntary Cleanup Program (VCP) prior to redevelopment of the property. By entering the VCP prior to buying or leasing the property, the prospective purchaser gains additional long-term liability protections as an "inculpable person" in regard to site contaminants in the future.

1.0 INTRODUCTION

At the request of the City of Frederick, the Maryland Department of the Environment (MDE) has conducted a Brownfields Assessment at the former McHenry Auto Parts Store (Site I) within the City of Frederick. The purpose of this investigation is to determine past uses of the property, characterize ambient environmental conditions, and determine if there are any human health or toxicological risks due to previous site activities. This report outlines the findings of the Brownfields Assessment and a toxicological evaluation of the resultant data.

1.1 Current and Former Use

The Former McHenry Auto Parts Store (Site I) occupies a 1.3-acre parcel of property bisected by the East Street extension at the intersection of East Patrick Street and East Street in Frederick, Frederick County, Maryland (Figure 1). The facility is located within a commercial/residential area and is bounded by East Patrick Street to the north, Water Street to the west and Carroll Creek to the south. Prior to the construction of the East Street extension, an old railroad easement passed through the property. The surrounding property is within the City of Frederick and is a mixture of commercial, residential, government offices, and light industry. Several rejuvenation projects are being undertaken along Carroll Creek. These activities are to reuse old industrial/commercial properties and increase the aesthetic appeal of the area along Carroll Creek known as Carroll Park.

The City of Frederick constructed the East Street extension through the property, which created two sub-lots. The western parcel is a thin, approximately 6,000 sq. ft macadam-covered sliver that is part of the parking lot of the nursery located on the western corner of East Patrick Street and East Street. This parcel is under contract to be sold and is not included within this investigation. The eastern lot covers approximately 0.5 acre on which the two original bi-level masonry and frame buildings remain. The total area of these buildings is approximately 14,000 sq. ft. The buildings are currently used by the City of Frederick for storage as well as a homeless shelter in winter months.

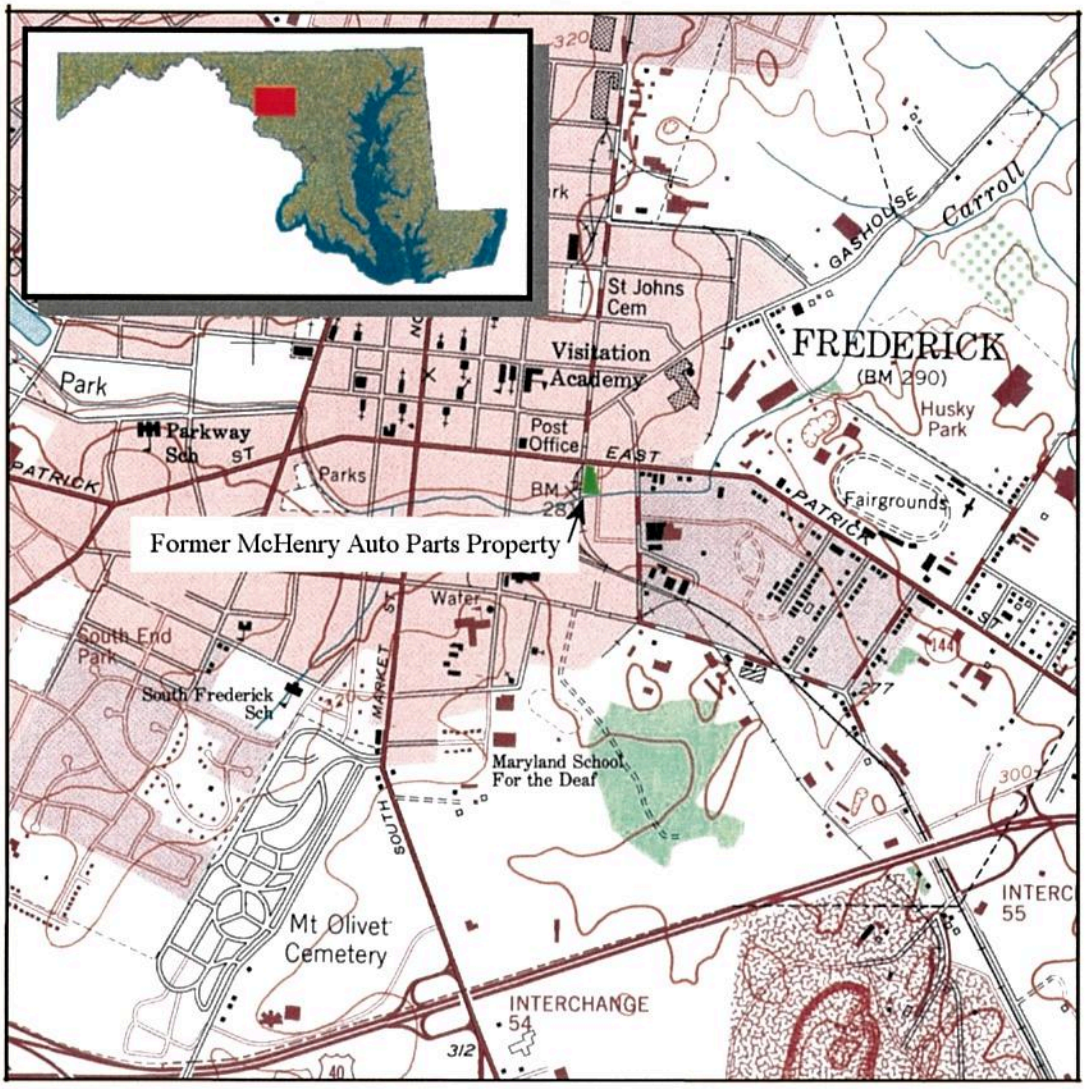

Figure 1
Location Map
Site I
Former McHenry Auto Parts Property
Frederick, Maryland

One Sanborn fire insurance map was found for this area. Based on this 1930 map, the earliest confirmed usage of the property was as an auto repair and parts store. Previous edits noted on the Sanborn map indicate that the property was used by Old Hygeia Coal and Ice prior to use as an auto parts store. The 1930 Sanborn map indicates that a service station with a "filling" shed and "pumps" were immediately adjacent to the east. To the west side of the property was a railroad spur and siding that was used for freight service through the City of Frederick. The tracks and siding were abandoned and have been removed and the rail bed used for the East Street extension.

Based on a property appraisal (William G. Bowen, 2002) the property continued to be used as an auto parts and repair facility and was passed between several owners. The most recent acquisition of the auto repair and parts business was by John and Pat McHenry from Mr. Irving A. Abb in 1969. The McHenry's continued to operate the business at East Patrick Street until 1998 when the City of Frederick purchased the property.

A review of the available files indicates that residual contamination from previous operations next door to Site I currently exists. There have been no previous investigations at Site I. MDE has identified the adjoining Chicken Man property as having subsurface gasoline contamination that is due to leakage from a former UST. Elevated levels of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalene, and methyl tertiary butyl ether (MTBE) have been detected. Monitoring wells continue to indicate contamination on the adjoining property.

1.2 Potential Future Use

Possible future use includes commercial/residential usage. Industrial or open space land use is not likely due to the residential/commercial/recreational land use of the surrounding areas.

2.0 ENVIRONMENTAL SETTING

The following section presents the physical setting of the facility. This discussion is based on a file review of previous investigations, a site visit, and data generated during the Brownfields Assessment subsurface investigation.

2.1 Topography/Geology/Hydrogeology

Site I is located on the central portion of the Frederick 7.5 minute topographic map (Figure 1). The facility lies on a flat terrace approximately 300-feet above national geodetic vertical datum (NGVD). Surrounding areas are moderately incised by first and second order tributaries of the Monocacy River creating moderate relief and rolling hills. Carroll Creek is immediately south of Site I. However, this creek has been channelized for flood control and is actually higher than portions of the property.

Frederick is situated within the western division of the Piedmont physiographic province. This area has moderate relief and gently rolling slopes that contains the low-lying Frederick Valley. Site I is underlain by the Cambrian-age Frederick Limestone. The Frederick Limestone is a thin-bedded dark blue limestone with dark argillaceous partings and is up to 500 feet thick. Drilling logs in the area indicate that the limestone bedrock is overlain by fill and sandy gray clay. Overburden thickness ranges from 10 to greater than 20 feet. Water-filled solution cavities have been recorded in drilling logs in the area.

An environmental investigation was conducted at the adjacent Chicken Man property. During this investigation, a single water table aquifer was mapped below the site (Handex, 1989). Groundwater occurs within native discontinuous gravel layers and the fill material below the site. Groundwater is typically 6 to 15 feet below ground surface (bgs) and flows to the southeast towards Carroll Creek. Although Carroll Creek is channelized, an underlying conduit reportedly collects subsurface flow.

The Frederick Limestone is an important water-bearing unit in the area. A large number of commercial, residential, and farm wells tap this aquifer. Yields from less than 1 gallon per minute (gpm) up to 275 gpm are recorded (The Water Resources of Carroll and Frederick County, 1958). Yields from on-site wells are generally low, on the order of one gallon per minute and less.

A well search was conducted using the MDE well database. This search returned 51 wells within a half-mile area surrounding site I. However, the wells recorded within the area are almost exclusively shallow (5 to 34 feet) monitor wells, not potable water wells. The historic use of downtown Frederick for industrial and transportation purposes has impacted the shallow groundwater to the point that it is unreliable as a source for potable water.

Over the years, the area around Site I has undergone significant modification. To the west, the East Street Extension was put in. This required filling and regrading the area to reconstruct a railroad bridge across Carroll Creek for automobile and pedestrian traffic. Carroll Creek itself has undergone a major flood control project. As part of this project two 48-inch pipes were installed below Carroll Creek to carry the flow below ground surface. The visible creek contains a fraction of the creek flow that has been channelized to provide aesthetic value to the Carroll Creek park within the city. This work has resulted in a cut and fill within the back portions of the property. Subsurface investigations confirm the presence of fill below the parking lots and rear yard.

MDE installed two monitor wells and drilled eight shallow soil borings during the Brownfields Assessment. The shallow soil borings extended to a depth of six feet below ground surface and monitor wells were installed to 24 and 26 feet. Fill below the northern and western parking lots contains a mixture of dark colored sand, silt, clay, bricks, and cinders that exude strong petroleum odors in places. This fill is generally five feet (or greater) in thickness. The fill within the back of the building appears to be cleaner silty sand, silty clay materials with no observed odors. In general, the fill appears to be thickest along the northern and western property boundaries.

Bedrock was encountered at approximately 18 to 26-ft below ground surface. At MW-1, drilling progressed through 17 feet of unconsolidated overburden and encountered a limestone layer at approximately 17 ft bgs. Drilling was switched to downhole hammer and proceeded for another

two feet before a solution cavity or a highly weathered zone was encountered. Drilling continued to 30 feet, although logging the hole was difficult due to a combination of water and free product evacuated from the zone below 17 ft by the air stream. In all, seven drums were filled to containerize the waste before setting the well screen from 26.5 to 16 feet bgs. Drilling at MW-2 encountered bedrock at approximately 26.5 ft bgs. MW-2 is slightly lower in elevation than is MW-1. The absence of bedrock prior to 26.5 ft bgs suggests that the rock layer encountered in MW-1 at 17 feet bgs is an erosional remnant within the overburden. Pinnacling and other such erosional features are common in limestone terrains such as that found at Frederick Site I. Although some free product was recorded at 25 ft bgs in MW-2, the volume of water and waste was not as great as that encountered in MW-1. However, downhole hammer drilling was not used at MW-2 so that waste generation would be minimized. Therefore complete conclusions regarding the actual contents encountered cannot be provided.

2.2 Surface Water

The facility is situated on a flat terrace adjacent to Carroll Creek. However, as previously indicated, Carroll Creek has undergone a significant flood protection program that channelized stream flow below ground surface. Stream flow within the visible Carroll Creek is controlled upstream and does not receive water from surface runoff within the area of its channelization within the town of Frederick. Surface water runoff from the facility is instead captured by an integrated storm water runoff system or infiltrates into the ground at a low point behind the property that is lower than Carroll Creek. There are no surface water bodies such as storm water retention basins, ponds, or creeks on the facility property.

3.0 DESCRIPTION OF INVESTIGATION

The following section details the Brownfields Assessment that was conducted at Site I. The results of this investigation are detailed in Section 4.0. Hard copy of the analytical results are provided in Attachment A, boring log and well construction data in Attachment B, a toxicological risk assessment within Attachment C, results of a well search in Attachment D, site photographs within Attachment E, and results of a regression analysis in Attachment F.

3.1 Soil and Groundwater Sampling

The approach to this site characterization was to collect evenly distributed environmental samples from soil and groundwater throughout the site, perform field screening analyses on soil samples, and submit all groundwater and a subset of the soil samples to a fixed laboratory for analysis. Particular parameters have been selected for each sample based on known or potential contamination. Figure 2 shows the sampling locations.

3.1.1 Soil Sampling

Fourteen soil samples (plus one duplicate) were collected at seven on-site locations (Figure 2, Table 1). All samples were analyzed using X-ray fluorescence (XRF) for metals and immunoassay field screened for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, xylenes (BTEX), and carcinogenic polynuclear aromatic hydrocarbons (cPAHs) as shown in Table 2. Based on field screening results, 40% of the samples (6) were submitted for fixed lab [MARTEL Laboratories, Baltimore, MD] confirmation. However, 11 soil samples were directly to MARTEL for VOC analysis. Soil samples submitted to MARTEL and analytical parameters requested are presented in Table 3.

Soil samples were collected at surface (0 –1.0') and subsurface depths (4-5') to measure the concentration of contaminants the general public is most likely to come in contact with. One sample was planned to be collected from beneath the building foundation. However, due to the low ceiling

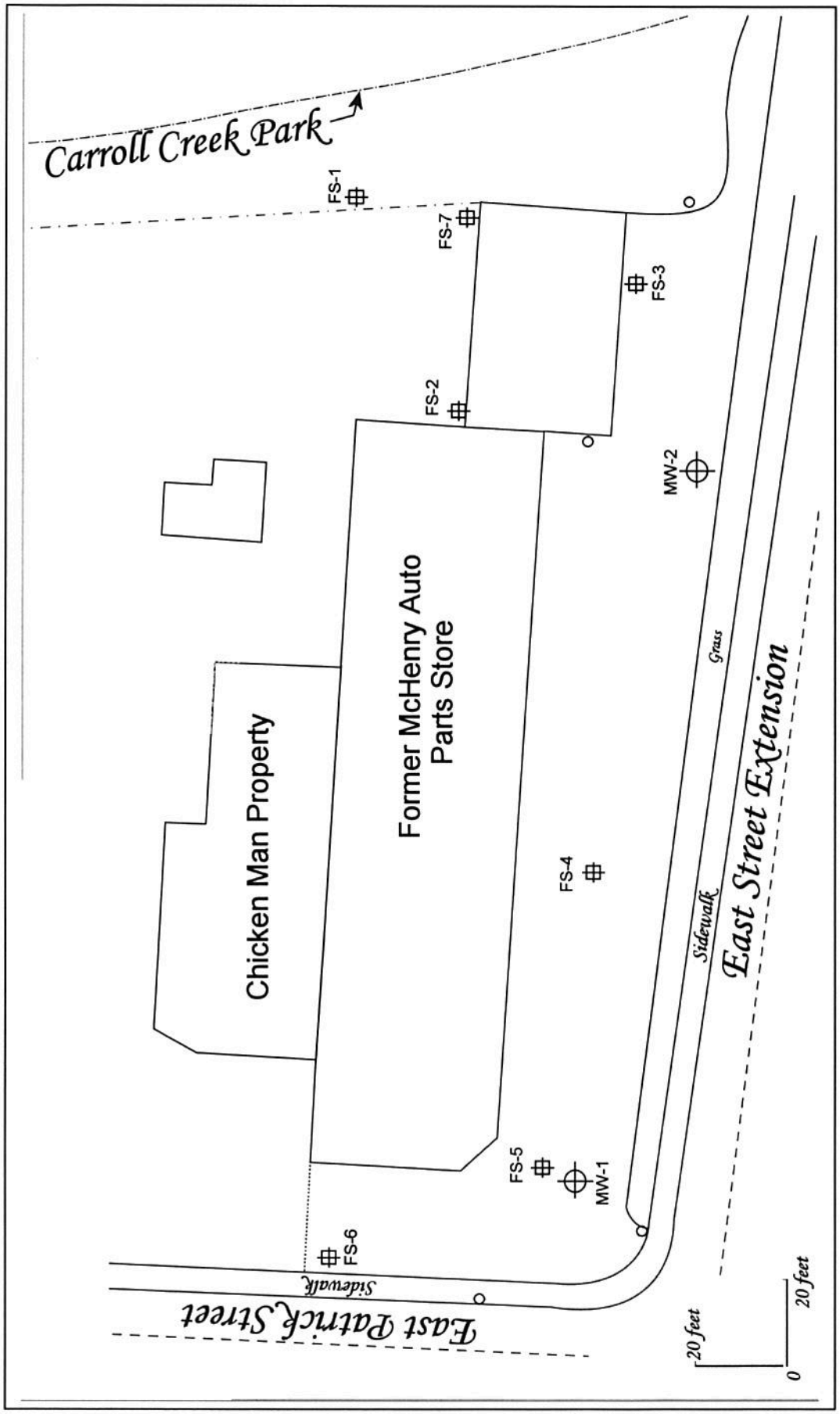

Figure 2
Sample Location Map
Site I
Former McHenry Auto Parts Property
Frederick, Maryland

Table 1
Soil Samples
Frederick, Site I
Frederick, Maryland

Sample	Depth (ft BGS)	Sample	Depth (ft BGS)
FS-1	0-1	FS-5	0-1
FSS-1	4-5	FSS-5	4-5
FS-2	0-1	FS-6	0-1
FSS-2	4-5	FSS-6	4-5
FS-3	0-1	FS-7	0-1
FSS-3	4-5	FSS-7	4-5
FS-4	0-1	FS-8	0-1
FSS-4	4-5	FSS-8	4-5

Table 2
Field Screening Parameters
Frederick, Site –I
Frederick, Maryland

Sample ID	Matrix	XRF Metals	IM CPAHs	IM PCBs**	IM BTEX
FS-1	Soil	X	X	X	
FSS-1	Soil	X	X	X	
FS-2	Soil	X	X	X	
FSS-2	Soil	X	X	X	
FS-3	Soil	X	X	X	
FSS-3	Soil	X	X	X	
FS-4	Soil	X	X	X	
FSS-4	Soil	X	X	X	
FS-5	Soil	X	X	X	
FSS-5	Soil	X	X	X	
FS-6	Soil	X	X	X	
FSS-6	Soil	X	X	X	
FS-7	Soil	X	X	X	
FSS-7	Soil	X	X	X	
FS-8*	Soil	X	X	X	

*FS-8 duplicates FS-7
**PCBs = polychlorinated biphenyl's

Table 3
Fixed Lab Parameters
Frederick, Site –I
Frederick, Maryland

		ANALYSIS				
Sample ID	Matrix	VOCs	SVOCs	Metals	Pesticides/PCB	DRO/GRO*
FSS-1	Soil	X	X		X	X
FS-2	Soil	X				
FSS-2	Soil	X				
FS-3	Soil		X	X	X	
FSS-3	Soil	X				
FS-4	Soil	X		X		
FSS-4	Soil	X	X	X	X	X
FSS-5	Soil	X				
FS-6	Soil	X				
FSS-6	Soil	X	X		X	X
FS-7	Soil		X	X	X	X
FSS-7	Soil	X		X		
FS-8	Soil		X	X	X	X
FSS-8	Soil	X				

*DRO/GRO = Diesel range and gasoline range organics

of the building, drilling equipment could not be moved in to access this area. Therefore the sample location (FS-7) was moved to just outside the garage area. Borings were advanced using a standard geoprobe drill rig and a continuous soil profile was recorded. In general, lithologic samples were obtained from 4 foot continuous core intervals. Geologic classification and field screening and observations were recorded for most of the boring locations. However boring logs were not recorded at two locations (FS-7 and FS-3) and noteworthy materials (odorous fill, unusual lithology) were not encountered at these locations (Attachment B).

3.1.2 Monitor Well Installation

Previous investigations near Site I indicate that groundwater occurs within the fill below the site and within the shallow limestone bedrock. Yields from these wells are generally low. Therefore direct-push technology was not considered to be a reliable method for collecting sufficient volumes of water for the desired analyses. Because characterizing the groundwater is an important part of this investigation, the installation of monitoring wells was chosen.

Monitor wells MW-1 and MW-2 were installed using an Air-Hammer rig. Boring logs and well installation details are provided in Attachment B. At MW-1, free product was encountered at 17 ft bgs. Drilling was advanced to 30 feet, which was the target depth for the location. While removing the tools from the hole, the hole collapsed to 26 feet and approximately seven drums of groundwater and free product waste were generated. A 4-inch diameter, 0.02-inch slot polyvinyl-chloride (PVC) well screen was set from 26.5 to 16.5 ft bgs. Filter sand was placed in the annular space from 26.5 feet to 3 feet bgs followed by a cement collar and flush mount protective cap. At MW-2, the downhole hammer was not used to limit the production of liquid wastes. Drilling proceeded with an 8-inch auger until bedrock was encountered (26.5 ft bgs) and the well was set at 16 to 26 ft bgs. A 4-inch diameter, 0.02-inch slot polyvinyl-chloride (PVC) well screen was set from 26 to 16 ft bgs. Filter sand was placed in the annular space from 26.5 feet to 3 feet bgs followed by a cement collar and flush mount protective cap.

Following well installation each well was developed for 1 hour to remove standing water and any drilling materials that were introduced.

3.1.3 Groundwater Sampling

Groundwater was collected from two on-site locations (Figure 2) in the shallow aquifer at two monitor wells installed during the project. Groundwater samples were reduced from the number planned (three) due to the large quality of free product and contaminated water generated during the installation of MW-1. Provisions and costs for containerizing the purge water, impacted with free product, were not allowed for during project planning. Therefore, groundwater samples were collected from the drummed waste and are considered to indicate the most impacted conditions within the shallow aquifer below the site. In addition, two VOC samples were collected from the standing water within MW-1 and MW-2. No purging was performed, therefore these samples could be subject to concentration reductions due to VOC volatilization as the water stood within the well. Samples were analyzed for the parameters indicated in Table 4.

Table 4
Groundwater
Fixed Lab Parameters
Frederick, Site –I

		ANALYSIS				
Sample ID	Matrix	VOC	SVOCs	Metals	Pesticide/PCBs	DRO/GRO
MW-1	GW	X				
MW-2	GW	X				
MW-1-drum	GW	X	X	X	X	X
Trip Blank	W	X				

4.0 SAMPLING RESULTS

The following section presents the contamination assessment based on the sampling conducted on December 18 and 26, 2002. Field screening analyses were first conducted on the samples as previously described. Based on the results of the field screening soil samples were selected and submitted to MARTEL for analysis. Sample results were compared against MDE *Cleanup Standards for Soil and Groundwater* to determine if constituents were detected that exceeded these standards.

4.1 Field Screening Results of Soil Samples

Fourteen soil samples and one duplicate were submitted for field screening analysis at the MDE laboratory. Samples were screened for metals, pesticides/polychlorinated biphenyls(PCBs), and cPAHs.

4.1.1 Field Screening Metals Analysis

Field screening results for metals in soils are shown in Table 5. Based on this analysis the following metals (and their highest detected concentration in milligrams per kilogram (mg/kg)) were detected: silver (3.9), arsenic (17.35), barium (691.87), cadmium (2.74), calcium (18.93%), chromium (99.04), iron (4.99%), mercury (2.78), manganese (1,599.26), nickel (64.08), lead (2,391.59), antimony (10.14), selenium (1.65), thallium (1.77), vanadium (121.0), and zinc (434.98) were detected. Of the samples, only arsenic, lead, and mercury were detected above nonresidential state cleanup standards.

Of the detected metals, arsenic, barium, mercury, manganese, lead, and vanadium exceeded MDE Cleanup Standards for residential soils. The average arsenic detection is 8.93 mg/kg with a standard deviation of 4.92. The maximum detected concentration was in the sample FSS-6 at 17.36 mg/kg. The average barium detection is 447.1 mg/kg with a standard deviation of 141.9. The maximum barium detection is in sample FS-2. The average mercury detection is 2.56 mg/kg and a standard deviation of 0.311. The maximum mercury detection is also in sample FSS-6. The average manganese detection is 783.4 mg/kg with a standard deviation of 481.46. The maximum manganese

Table 5
Soil
Screening Analysis Results - Metals
Frederick, Site -I

	AG	AS	BA	CD	CR	CU	FE	HG	MN	NI	PB	SB	SE	TL	V	ZN
Units	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
FS-1	3.90	**11.56**	411.02	N D	94.02	67.80	3.63	N D	517.90	64.08	284.73	10.14	N D	0.91	54.34	381.48
FSS-1	1.50	**6.39**	433.71	N D	97.81	37.60	3.58	N D	326.58	25.81	91.56	3.39	0.61	N D	105.88	181.83
FS-2	N D	**8.07**	691.87	1.63	86.49	32.15	4.79	N D	1,064.59	55.60	21.62	1.65	1.22	N D	86.20	97.01
FSS-2	N D	**4.054**	534.70	N D	80.04	18.66	3.35	N D	182.79	17.92	15.87	1.45	N D	0.35	117.15	67.73
FS-5	N D	**10.18**	570.38	N D	84.53	9.39	4.99	**2.34**	930.50	N D	327.37	N D	N D	0.32	106.17	85.26
FSS-5	0.63	**5.34**	250.43	0.70	63.58	12.28	3.53	N D	1,599.26	17.14	19.54	3.13	1.39	0.39	91.95	61.55
FS-3	3.63	**16.17**	228.97	0.46	99.04	50.11	2.56	N D	461.29	18.57	75.21	2.28	0.71	0.55	46.56	260.24
FSS-3	3.14	**8.60**	440.84	0.05	83.96	21.60	4.72	N D	1,330.01	41.84	55.09	N D	N D	0.42	121.00	103.52
FS-4	N D	**15.54**	575.31	2.74	91.95	103.15	3.80	N D	653.08	54.54	261.21	9.79	1.65	0.23	100.87	434.98
FSS-4	N D	N D	651.53	1.69	85.06	46.99	2.97	N D	1,049.61	32.81	**2,391.59**	1.27	N D	1.77	76.45	182.20
FS--6	0.95	**5.34**	342.25	1.28	69.76	21.20	3.33	N D	1,466.37	N D	75.58	4.15	N D	0.58	97.66	67.91
FSS-6	N D	**17.35**	345.87	N D	75.80	255.24	3.85	**2.78**	275.59	N D	19.56	0.45	N D	N D	114.21	71.21
FS-7	1.62	2.125	338.61	0.49	52.55	14.04	1.65	N D	175.31	8.90	26.43	4.44	1.11	N D	77.73	56.03
FSS-7	3.20	**5.39**	443.78	1.15	60.96	35.74	3.26	N D	934.21	16.34	128.96	0.27	N D	0.27	108.60	321.82
Maximum	*3.9*	*17.35*	*691.87*	*2.74*	*99.04*	*255.24*	*4.99*	*2.78*	*1,599.26*	*64.08*	*2,391.59*	*10.14*	*1.65*	*1.77*	*121.00*	*434.98*
Non-Residential CC	*1000*	*3.8*	*14,000.00*	*100.00*	*610.00*	*8,200.00*	*61,000.00*	*0.12*	*41,000.00*	*41,000.00*	*400.00*	*82.00*	*1,000.00*	*14.00*	*1,400.00*	*61,000.00*

Red text – Detection exceeds MDE non-residential cleanup criteria (exceeds residential is implied)

detection is in sample FSS-5. The average lead detection is 271.02 with a standard deviation of 619.52. The highest lead detection is in sample FSS-4. The average vanadium detection is 93.20 mg/kg with a standard deviation of 22.68. The highest detection is within sample FSS-3.

Based on the field screening results it appears there are elevated concentrations of metals. Although arsenic is a naturally occurring element within soils of Maryland, the sample with the highest concentration of arsenic (FSS-6) also has the highest detection of mercury. Other metals detections suggest that they are associated with deeper horizons within the fill material below the northern and western parking lot areas.

4.1.2 Field Screening PCB Analysis

PCB and cPAH field screening results are given in Table 6. PCBs were detected in every sample except FS-6. However, over half of the detections were below the calibration range of the instrument. The highest detection was observed in sample FSS-4 (710 µg/kg). The average detection (253 µg/kg) is below the State cleanup standard for total PCBs of 1 mg/kg for residential soils. Therefore field-screening analysis suggests PCBs are not a contaminant of concern in soils at Site I. Samples FSS-1, FS-3, Fss-3, FSS-4, FSS-6 and FS-7 were submitted to MARTEL for confirmatory analysis for PCBs.

The highest cPAH detection was observed in sample FSS-4 (17,520 µg/kg). The average detection is 5,415 µg/kg. However, the lowest cleanup level for any cPAH is that of benzo[a]pyrene which is 0.33 mg/kg. Because the average cPAH detection is above this individual compound, it is possible that cPAHs are a contaminant of concern in soil at Site I. Therefore samples from FSS-1, FS-3, FSS-3, FSS-4, FSS-6, and FS-7 were submitted to MARTEL for confirmatory analysis.

Once again, the highest detections appear to be associated with the fill material along the northern and western parking lot areas. There is also a mild correlation between the cPAH results and PCB results.

Table 6
Screening Analysis Results – PCBs and cPAHs
Frederick, Site -I

Sample ID	CPAHs (µg/kg)	PCBs (µg/kg)	
FS-1	1144	140	[2]
FSS-1	2272	140	[2]
FS-2	272	120	[2]
FSS-2	ND	110	[2]
FS-3	6656	260	
FSS-3	2208	120	[2]
FS-4	10480	340	
FSS-4	17520	710	
FS-5	9672	310	
FSS-5	9480	220	[2]
FS-6	4528	ND	
FSS-6	5816	410	
FS-7	80	220	[2]
FSS-7	272	190	[2]

[2]Sample concentration below calibration range.
ND – Not detected.

4.2 Fixed Laboratory Results of Soil Samples

Selected soil samples were delivered to MARTEL in Baltimore, Maryland, for analysis. MARTEL analyzed for VOCs in addition to confirming the results of the field screening methods. Complete laboratory data sets are provided in Attachment A. Detected contaminants are listed in the tables indicated. The results of the fixed laboratory analysis are discussed in this section.

4.2.1 Fixed Laboratory Metals Analysis

Fixed laboratory results for metals are presented in Table 7. Arsenic and mercury were detected above non-residential MDE cleanup standards in all five samples and one duplicate (Table 7, red text). Chromium exceeded residential MDE cleanup standards for hexavalent chromium in sample FS-3, only, and manganese exceeded residential MDE cleanup standards in all samples except FS-3 (Table 7, blue text). The average arsenic concentration is 10.5 mg/kg with a standard deviation of 3.14. The average mercury concentration is 0.77 mg/kg with standard deviation of 0.46.

Based on a regression analysis of data the metals data, there is poor correlation between the field screening and Martel analyses (R^2 <0.7) at the level of concentration detected (Attachment F). Therefore a linear probabilistic model cannot be used to predict the field screening results based upon fixed lab results. However, on average, the field screening results are typically higher than those of the fixed lab. Regardless of these discontinuities, the detection of elevated mercury and lead concentrations in each data set indicate some impact. These collective data suggest that the subsurface is impacted by elevated concentrations of heavy metals, in particular, arsenic, lead, and mercury. Although there are detections within samples collected at the rear of the property, the highest detections appear to be below the parking lot areas on the north and western portions of the property.

Table 7
Soil
MARTEL Results - Metals
Frederick, Site -I

Metal	Units	*Maximum*	*Non-Residential Cleanup Criteria*	FS-3	FS-4	FSS-4	FS-7	FSS-7	FS-8
Arsenic	mg/kg	*14*	*3.8*	**5**	**11**	**14**	**13**	**10**	**10**
Beryllium	mg/kg	*1.3*	*410*	**1.3**	<0.06	**1.2**	**0.82**	**1.2**	**0.98**
Cadmium	mg/kg	*0.96*	*100*	**0.1**	**0.4**	**0.13**	**0.96**	**0.96**	**0.59**
Chromium	mg/kg	*26*	*100*	**26**	**11**	**20**	**13**	**18**	**20**
Copper	mg/kg	*65*	*8,200*	**21**	**39**	**23**	**41**	**65**	**37**
Lead	mg/kg	*190*	*400*	**13**	**190**	**110**	**170**	**86**	**126**
Manganese	mg/kg	*1,500*	*4,100*	**160**	**300**	**1,000**	**280**	**1,500**	**550**
Mercury	mg/kg	*1.5*	*0.12*	**0.27**	**1.5**	**1.1**	**0.62**	**0.71**	**0.41**
Nickel	mg/kg	*24*	*4,100*	**24**	<0.2	**8.8**	**9.6**	**10**	**9.5**
Selenium	mg/kg	*1.9*	*1,000*	<0.6	**1.9**	**0.6**	**0.77**	<0.6	<0.7
Silver	mg/kg	*0.4*	*1,000*	**0.4**	<0.1	**0.17**	<0.1	<0.1	**0.24**
Thallium	mg/kg	*0.29*	*14*	**0.22**	<0.2	<0.3	<0.29	<0.3	<0.3
Zinc	mg/kg	*270*	*61,000*	**54**	**190**	**73**	**250**	**270**	**220**

RED text – Detection exceeds MDE non-residential cleanup criteria (exceeds residential is implied).
BLUE text – Detection exceeds MDE residential cleanup criteria.

4.2.2 Fixed Laboratory Pesticides and PCB Analysis

Pesticides were detected within three of the six samples submitted for analysis (Table 8). The highest detections were all within sample FSS-4. However, all were below MDE cleanup criteria. The detections within FSS-4 are coincident with elevated detections of lead. FSS-4 is located on the western side of the property and is covered with macadam. The presence of pesticides and other contaminants in this area could be due to the old railroad tracks and siding that were once in this area or due to historical uses of pesticides by the property owners.

PCBs were not detected within any soil sample submitted for confirmatory analysis. It is possible that the PCBs detected using field screening techniques were the result of elevated organics compounds (pesticides, SVOCs) within the soils and not due to PCBs themselves. PCBs are not believed to be a contaminant of concern at this property.

Table 8
Soil
MARTEL Results - Pesticides
Frederick, Site -I

	Units	Maximum	Cleanup Criteria	FSS-1	FS-3	FSS-4	FSS-6	FS-7	FS-8
4,4'-DDD	µg/kg	67	24,000	<12	<12	**67**	<13	<13	<13
Dieldrin	µg/kg	15	360	<12	<12	**15**	<13	<13	<13
Endosulfan II	µg/kg	34	1,200,000	<12	<12	**34**	<13	<13	<13
Endosulfan Sulfate	µg/kg	11	1,200,000	<12	<12	**11**	<13	<13	<13
Endrin Aldehyde	µg/kg	17	61,000	<12	<12	**17**	<13	<13	<13
Heptachlor Epoxide	µg/kg	17	630	<12	<12	**17**	<13	<13	<13
Methoxychlor	µg/kg	590	1,000,000	<12	<12	**590**	<13	**65**	**74**

4.2.3 Fixed Laboratory SVOC Analyses

Semi-volatile organic compounds were detected within five of the six samples submitted for analysis. This confirms the field screening method that indicated cPAHs occurred within soil samples collected at Site I. Of the twenty SVOCs detected (Table 9), seven (Benzo[a]anthracene , 70,000 µg/kg, Benzo[b]fluoranthene, 41,000 µg/kg, Benzo[k]fluoranthene, 51,000 µg/kg, Indeno-(1,2,3-cd)-pyrene, 44,000 µg/kg, Dibenz[a,h]anthracene, 8,800 µg/kg, Pyrene, 260,000 µg/kg, and Benzo[a]pyrene, 120,000 µg/kg) exceeded MDE cleanup criteria for residential soil (Table 9, blue and red text). Of these, five (Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[a]pyrene,

Dibenz[a,h]anthracene and Indeno-(1,2,3-cd)-pyrene, 44,000 µg/kg) also exceeded MDE cleanup criteria for non-residential soil (Table 9, red text).

The majority of the detections were recorded within sample FSS-4. This is also the location at which field screening indicated the highest cPAH detections suggesting reasonable correlation between the field screening and laboratory results. These detections suggest that residual traces of SVOCs are found within the fill and underlying soils at the Site I property. The origin of these materials could possibly be due to the old railroad spur that existed in this area or the old Hygeia Coal and Ice company that was located here prior to 1930.

Table 9
Soil
MARTEL Results - SVOCs
Frederick, Site -I

	units	Maximum	MDE Non-Residential Cleanup Criteria	FSS-1	FS-3	FSS-4	FSS-6	FS-7	FS-8
Acenaphthene	µg/kg	*6,400*	*12,000,000*	<588	<595	**6,400**	<641	<658	<658
Acenaphthylene	µg/kg	*21,000*	*12,000,000*	<588	<595	**21,000**	<641	<658	<658
Anthracene	µg/kg	*31,000*	*61,000,000*	<588	<595	**31,000**	<641	<658	<658
Benzo[a]anthracene	µg/kg	*70,000*	*7,800*	**2,000**	<595	**70,000**	<641	<658	**600**
Benzo[b]fluoranthene	µg/kg	*41,000*	*7,800*	**1,400**	<595	**41,000**	<641	<658	**1,000**
Benzo[k]fluoranthene	µg/kg	*51,000*	*78,000*	**1,600**	<595	**51,000**	<641	<658	**1,100**
Benzo[a]pyrene	µg/kg	*120,000*	*780*	**2,300**	<595	**120,000**	<641	<658	**1,000**
Chrysene	µg/kg	*78,000*	*780,000*	**2,300**	<595	**78,000**	<641	**830**	**1,800**
Fluorene	µg/kg	*14,000*	*8,200,000*	<588	<595	**14,000**	<641	<658	<658
Dibenz[a,h]anthracene	µg/kg	*8,800*	*780*	<588	<595	**8,800**	<641	<658	<658
Benzo[g,h,i]perylene	µg/kg	*81,000*	*6,100,000*	**1500**	<595	**81,000**	<641	<658	**1000**
Pyrene	µg/kg	*260,000*	*6,100,000*	**3,100**	<595	**260,000**	<641	**1,700**	**3,400**
Fluoranthene	µg/kg	*105,000*	*8,200,000*	**2,200**	<595	**105,000**	<641	**1,400**	**3,200**
Bis-(2-ethylhexyl)-phthalate	µg/kg	*1,400*	*410,000*	**1,200**	<595	**1,000**	**1,400**	<658	<658
Hexachlorocyclopentadiene	µg/kg	*0*	---	<588	<595	<641	<641	<658	<658
Indeno-(1,2,3-cd)-pyrene	µg/kg	*44,000*	*7,800*	**1,200**	<595	**44,000**	<641	<658	**790**
2-Methylphenol	µg/kg	*0*	---	<588	<595	<641	<641	<658	<658
2-Methylnaphthalene	µg/kg	*17,000*	*4,100,000*	<588	<595	**17,000**	<641	<658	<658
N-Nitroso-di-N-propylamine	µg/kg	*0*	---	<588	<595	<641	<641	<658	<658
Phenanthrene	µg/kg	*180,000*	*61,000,000*	<588	<595	**180,000**	<641	**1,600**	**3,200**

RED text – Detection exceeds MDE non-residential cleanup criteria (exceeds residential is implied).
BLUE text – Detection exceeds MDE residential cleanup criteria.

4.2.4 Fixed Laboratory VOC and DRO/GRO Analysis

Table 10 lists the VOCs detected in the soil samples submitted for analysis. Eight VOC compounds were detected within soil samples collected at Site I. However, there were no detections that exceeded MDE cleanup requirements for residential or non-residential soils. One compound, dichloromethane (methylene chloride) was detected in eight of the eleven samples submitted. Methylene chloride is a known lab contaminants and is not believed to be a contaminant of concern at Site I. The majority of VOC detections were recorded at FSS-4, which is coincident with the majority of SVOC and pesticides detections. Benzene, ethylbenzene, isopropylbenzene, styrene, and toluene were all detected within FSS-4. These compounds are associated with petroleum products and could be associated with the releases recorded at the Chicken Man property. The elevated concentrations of multiple contaminants could also indicate a different source, possibly associated with the old railroad spur that passed near the FSS-4 location.

One chlorinated VOC, 1,1,2,2-tetrachloroethane (1122TECA) was detected within one soil sample. 1122TECA was detected within soil sample F22-7 (6.7 µg/kg) and the duplicate FSS-8 (6.9 µg/kg). This particular compound is not as widely used as other cleaners and degreasers such as tetrachloroethene and trichloroethene. The sample location FSS-7 is located immediately next to the corner of the building and garage door. It is possible that 1122TECA was used within the auto service business and disposed of in this area. The low concentrations and limited occurrence of 1122TECA do not warrant assuming TECA to be a contaminant of concern at the Site I property at this time.

Diesel range organics and gasoline range organics (DRO/GRO) were detected in all five samples for which it was analyzed. The highest DRO detection was recorded in sample FSS-6 (1,500 mg/kg) and the highest GRO detection was within sample FSS-4 (54 µg/kg). Each sample exhibited a distinct petroleum odor when they were collected. Due to the wide spread occurrence of petroleum impacted groundwater and soil at the next door Chicken Man property, DRO and GRO are believed to relevant contaminants of concern at the Site I property.

Table 10
Soil
MARTEL Results - VOCs
Frederick, Site -I

Analyte	units	*Maximum*	*Cleanup Criteria*	FSS-1	FS-2	FSS-2	FSS-3	FS-4	FSS-4	FSS-5	FS-6	FSS-6	FS-7	FSS-7	FS-8	FSS-8
Benzene	ug/kg	*70*	*100,000*	<6	<6	<6	<6	<6	**70**	<6	<6	<6	NT	<7	NT	<7
Dichloromethane	ug/kg	*53*	*760,000*	<6	**15**	**20**	**12**	**25**	<6	**10**	**16**	<6	NT	**32**	NT	**53**
Ethylbenzene	ug/kg	*230*	*20,000,000*	<6	<6	<6	<6	<6	**230**	<6	<6	<6	NT	<7	NT	<7
Isopropylbenzene	ug/kg	*67*	*20,000,000*	<6	<6	<6	<6	<6	**67**	<6	<6	<6	NT	<7	NT	<7
Styrene	ug/kg	*9.7*	*41,000,000*	<6	<6	<6	<6	<6	**9.7**	<6	<6	<6	NT	<7	NT	<7
1,1,2,2-Tetrachloroethane	ug/kg	*6.9*	*20,000*	<6	<6	<6	<6	<6	<6	<6	<6	<6	NT	**6.7**	NT	**6.9**
Toluene	ug/kg	*51*	*41,000,000*	<6	<6	<6	<6	<6	**51**	<6	<6	<6	NT	<7	NT	<7
Xylene, Total	ug/kg	*100*	*410,000,000*	<6	<6	<6	<6	<6	**100**	<6	<6	<6	NT	<7	NT	<7
Diesel Range Organics	mg/kg	*1500*	*NA*	**150**	NT	NT	NT	NT	**450**	NT	NT	**1,500**	**47**	NT	**29**	NT
Gasoline Range Organics	mg/kg	*54*	*NA*	**19**	NT	NT	NT	NT	**54**	NT	NT	**7.7**	**11**	NT	**5.7**	NT

4.3 Fixed Laboratory Groundwater Results

Three groundwater samples and one trip blank were collected during the Brownfields Assessment as previously discussed. Groundwater samples are not subject to field screening, as are soil samples. Therefore water samples were submitted directly to MARTEL for analysis. Full laboratory reports are provided in Attachment A. Detected concentrations are listed in the referenced tables.

As previously discussed, three groundwater samples were originally scheduled to be collected. Due to the fact that free product was encountered during the drilling, purging and sampling of the wells was not undertaken. Instead, standing samples for VOCs were collected from MW-1 and MW-2 and a suite of samples were collected from the drummed wastes collected during the drilling of MW-1. The samples from the drums are believed to represent the worst of the groundwater conditions below Site I. The standing was VOC samples were collected to confirm the presence of contaminants within the groundwater.

Groundwater samples were collected on December 26, 2002. Upon arrival on site, MDE's OCP inspected MW-1 and MW-2 to evaluate the presence of free product. Upon opening each well a heavy gasoline odor was noted. Within each well, free product was present, although the thickness was less than ¼ of an inch. The following section discusses the results of the water sampling conducted at Site I.

4.3.1 Groundwater Total Metals

All metals tested for were detected within the water sample collected from MW-1-drum (Table 11). Although filtering was attempted, the thick viscosity did not allow the water and sludge to pass through. As such, this sample is not indicative of the dissolved metals within groundwater, but do indicate the metals present within an emulsion of water and free product present below the Site I.

4.3.2 Groundwater Pesticides and PCBs

Pesticides and PCBs were not detected within the waste sample drummed at MW-1. The pesticides detections with the fill material at FSS-4 appear to be limited to soil and not evidence of a source area that migrated to the shallow groundwater.

4.3.3 Groundwater SVOC analysis

Fifteen SVOCs were detected within the groundwater/waste mixture collected from MW-1. Each SVOC exceeded its respective cleanup criteria for Type I & II aquifers (Table 12). However, these results do not reflect SVOCs that are dissolved within groundwater. Rather, these results

Table 11
Groundwater
MARTEL Results - Metals
Frederick, Site –I

	units	*Maximum*	*Cleanup Criteria*	MW-1 drum
Arsenic	µg/L	*700*	*50*	**700**
Beryllium	µg/L	*170*	*4*	**170**
Cadmium	µg/L	*46*	*5*	**46**
Chromium	µg/L	*1,200*	*100*	**1,200**
Copper	µg/L	*2,100*	*1,300*	**2,100**
Lead	µg/L	*2,000*	*15*	**2,000**
Manganese	µg/L	*28,000*	*50*	**28,000**
Mercury	µg/L	*15*	*2*	**15**
Nickel	µg/L	*1,700*	*73*	**1,700**
Zinc	µg/L	*6,200*	*1,100*	**6,200**

RED text – Detection exceeds MDE residential cleanup criteria for Type 1 and Type 2 aquifers.

indicate the potential source of contaminants that would dissolve within groundwater and migrate away from the site. Many of the SVOCs detected are representative of residual contaminants from coal gasification processes, creosote, or other wood preservative processes. Although some detected contaminants could be due to gasoline or fuel oil leakage migrating from the Chicken Man site as well. There is no historical indication of wood preserving or coal gasification operations at the Site I property, so off site origin and migration onto the site or sources associated with the old rail road spur that passed through the old site before it was subdivided for the East Street Extension are possibilities.

4.3.4 Groundwater VOC analysis

Elevated concentrations of VOCs were detected in all three groundwater samples submitted for analysis (Table 13). However, only benzene (9,600 µg/L), ethylbenzene (5,700 µg/L), isopropylbenzene (260 µg/L), and toluene (3,400 µg/L) exceeded MDE cleanup criteria for Type I and Type II aquifers. The standing was samples from MW-1 and MW-2 did not contain free product. Therefore these results indicate the dissolved contaminants within the groundwater. The constituents detected within the groundwater are representative of those that are associated with gasoline and other petroleum compounds such as those recorded at the Chicken Man property next door.

Table 12
Groundwater
MARTEL Results - SVOCs
Frederick, Site -I

	units	*Maximum*	*Cleanup Criteria*	MW-1 drum
Acenaphthene	µg/L	510	37	**510**
Acenaphthylene	µg/L	62	37	**62**
Benzo[a]anthracene	µg/L	140	10	**140**
Benzo[b]fluoranthene	µg/L	58	10	**58**
Benzo[k]fluoranthene	µg/L	82	10	**82**
Benzo[g,h,i]perylene	µg/L	120	18	**120**
Chrysene	µg/L	140	20	**140**
Dibenz[a,h]anthracene	µg/L	20	10	**20**
2,4-Dimethylphenol	µg/L	20	11	**20**
Indeno-(1,2,3-cd)-pyrene	µg/L	70	10	**70**
2-Methylnaphthalene	µg/L	1,200	20	**1,200**
Naphthalene	µg/L	3,900	10	**3,900**
Phenanthrene	µg/L	1,400	180	**1,400**
Phenol	µg/L	20	2,200	**20**
Pyrene	µg/L	810	18	**810**
DRO	Mg/L	83		**83**
GRO	Mg/L	120		**120**

RED text – Detection exceeds MDE residential cleanup criteria for Type 1 and Type 2 aquifers.

Table 13
Groundwater
MARTEL Results - VOCs
Frederick, Site -I

	units	Maximum	Cleanup Criteria	MW-1	MW-2	MW-1 drum
Benzene	µg/L	9,600	5	**9,600**	**85**	**7,200**
1,2-Dichloropropane	µg/L	5	5.5	5	<1	<100
Ethylbenzene	µg/L	5,700	700	**3,700**	**5,700**	**4,800**
Isopropylbenzene	µg/L	260	66	**110**	**260**	**140**
Toluene	µg/L	3,100	1,000	**3,100**	230	**1,100**
Xylene, Total	µg/L	7,400	10,000	4,800	7,400	5,700

RED text – Detection exceeds MDE residential cleanup criteria for Type 1 and Type 2 aquifers.

5.0 TOXICOLOGICAL ASSESSMENT

A toxicological review of the environmental data was performed as part of the Brownfields Assessment. The results of this review are provided in Attachment C.

Noncarcinogenic risks estimated for the incidental ingestion of detected surface and subsurface soil contaminants, under a commercial future use scenario, were within MDE and EPA recommended risk levels for all commercial populations. Risks associated with the incidental ingestion of detected carcinogenic surface soil contaminants exceeded MDE recommended risk ranges for the child visitor commercial population. Carcinogenic risk estimates for incidental ingestion of detected surface soil contaminants were within MDE recommended risk ranges for the youth visitor, adult worker and construction worker commercial populations and EPA recommended risk ranges for all commercial populations. Risk estimates for the incidental ingestion of detected carcinogenic subsurface soil contaminants exceeded MDE recommended risk ranges for all commercial populations and EPA recommended risk ranges for the child visitor, youth visitor and adult worker commercial populations. Risks associated with the incidental ingestion of detected carcinogenic subsurface soil contaminants were within EPA recommended levels for the construction worker commercial population. The estimated noncarcinogenic and carcinogenic risk levels from the inhalation of detected volatiles and fugitive dust from surface and subsurface soils were within acceptable levels as recommended by EPA and MDE for all commercial populations. Risk estimates for dermal exposure to detected carcinogenic and noncarcinogenic surface soil contaminants were within MDE and EPA recommended levels for all commercial populations.

The estimated noncarcinogenic and carcinogenic risks from ingestion of detected groundwater exceeded MDE and EPA recommended levels for all commercial populations. Noncarcinogenic risk estimates from dermal contact with detected groundwater contaminants exceeded MDE recommended risk ranges for all commercial populations. Carcinogenic risks from dermal contact with detected contaminants in groundwater were within EPA recommended risk ranges for the child visitor and construction worker commercial populations. Three detected contaminants, benzene, ethylbenzene, and toluene exceeded their respective maximum concentration limits. Benzene

exceeded the AWQC for the protection of aquatic life (acute and chronic) and protection of human health through fish consumption.

No detected contaminant in groundwater exceeded a hazard index (HI) of I or a cancer risk of greater than I x 10-5 from vapor intrusion of volatiles to indoor air for commercial populations. Vapor intrusion risk estimates for one detected contaminant in soils, mercury, exceeded MDE and EPA recommended noncarcinogenic risk levels. No detected carcinogenic soil contaminants exceeded MDE or EPA recommended risk ranges for vapor intrusion of volatiles to indoor air for commercial populations.

Four detected groundwater contaminants exceeded their corresponding MDE groundwater cleanup standard, however, groundwater sampling was limited to VOCs only. Three detected surface soil contaminant exceeded the corresponding MDE non-residential soil cleanup standard and seven detected subsurface soil contaminants exceeded the corresponding MDE non-residential soil cleanup standard.

6.0 SUMMARY

Based on the Brownfields Assessment, elevated concentrations of metals, pesticides, and SVOCs were detected within fill material below the parking lot on the northern and western sides of the building. These contaminants are not consistent with leaking underground storage tanks (USTs) and do not match the contaminants observed at the next-door Chicken Man property. It is possible these contaminants are associated with the old railroad spur that once passed through the area or perhaps fill generated during the operation of an old Coal and Ice business that operated at the property prior to 1930.

During the installation of MW-1, seven drums of free product and groundwater were generated. A sample of the emulsion created by this mixture was submitted to MARTEL for analysis. Elevated levels of metals, SVOCs, and VOCs were detected within this sample. Based on the SVOCs detected within this sample, it appears that the free product may have originated from a source other than gasoline leaking from a UST, possibly creosote or coal gasification residuals. VOC samples collected from MW-1 and MW-2 contain gasoline derivative compounds (benzene, toluene, xylene) and are consistent with gasoline contamination from leaking USTS. Therefore multiple sources or source types are a possibility.

A well search was conducted using the MDE well database. This search returned 51 wells within a half-mile area surrounding site I. However, the wells recorded within the area are almost exclusively shallow (5 to 34 feet) monitor wells, not potable water wells. The historic use of downtown Frederick for industrial and transportation purposes has impacted the shallow groundwater to the point that it is unreliable as a source for potable water.

Although the source of all the contaminants below the Site I property is not clear, the Brownfields Assessment indicates that the groundwater and soils below the property are clearly impacted. The toxicological assessment stated that VOCs and mercury are contaminants of concern. Groundwater use restrictions, further groundwater and soils investigation, and further delineation of mercury detections within the fill to the west of the property should be evaluated should development of the property be undertaken.

MDE believes that it would be in the best interest of all parties that potential buyers of Site I property consider entering the Maryland Voluntary Cleanup Program (VCP) prior to redevelopment of the property. By entering the VCP prior to buying or leasing the property, the prospective purchaser gains additional long-term liability protections as an "inculpable person" in regard to site contaminants in the future.

7.0 REFERENCES

HANDEX Environmental Consulting services (HANDEX), October 1988. Boring log and groundwater quality data provided to MDE, Oil Control Program.

The Water Resources of Carroll and Frederick Counties, Department of Geology, Mines, and Water Resources, Joseph T. Singewald, Jr., Director Bulletin 22, Baltimore, Maryland, 1958.

ATTACHMENT A

Analytical Results - MARTEL

MARTEL

Sensible Scientific Solutions

Certificate of Analysis

Monday, January 13, 2003

Prepared expressly for:

State of Maryland - MDE
1800 Washington Blvd
Suite 625
Baltimore, Maryland 21230

Attention: Scott Morgan

Report for Lab No: 91236.
Samples received by Martel.
Project Identification: Frederick - Site I

MARTEL NO. 91236 000001 FS-6 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 09:52

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 02:52 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 02:52 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 02:52 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Dichloromethane	16	ug/kg	EPA 8260B	5	B	12/20/2002 02:52 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 02:52 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL

MARTEL NO. 91236 000001 FS-6

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 09:52

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 02:52 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 02:52 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	99	%	EPA 8260B			12/20/2002 02:52 JKL
Dibromofluoromethane	71	%	EPA 8260B			12/20/2002 02:52 JKL
Toluene-d8	86	%	EPA 8260B			12/20/2002 02:52 JKL
						/ /
Solids (Total)	84	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000002 FSS-6

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 03:36 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 03:36 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 03:36 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL

MARTEL NO. 91236 000002 FSS-6

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Dichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 03:36 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 03:36 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 03:36 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	98	%	EPA 8260B			12/20/2002 03:36 JKL

MARTEL NO. 91236 000002 FSS-6

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Dibromofluoromethane	65	%	EPA 8260B			12/20/2002 03:36 JKL
Toluene-d8	89	%	EPA 8260B			12/20/2002 03:36 JKL
						/ /
Solids (Total)	81	%	EPA 160.3			12/19/2002 12:12 TB
Diesel Range Organics by GC/FID	1500	mg/kg	EPA 8015M	1		12/23/2002 17:27 TEH
						/ /
						/ /
Gasoline Range Organics by GC-FID	7.7	mg/kg	EPA 8015M	1		12/19/1902 13:12 SAK
						/ /
						/ /

MARTEL NO. 91236 000003 FSS-5

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 10:25

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 04:20 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 04:20 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 04:20 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Dichloromethane	10	ug/kg	EPA 8260B	5	B	12/20/2002 04:20 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL

MARTEL NO. 91236 000003 FSS-5

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 10:25

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 04:20 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 04:20 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 04:20 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	99	%	EPA 8260B			12/20/2002 04:20 JKL
Dibromofluoromethane	63	%	EPA 8260B			12/20/2002 04:20 JKL
Toluene-d8	91	%	EPA 8260B			12/20/2002 04:20 JKL
						/ /
Solids (Total)	82	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000004 FS-4

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:04

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 05:04 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:04 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:04 JKL

MARTEL NO. 91236 000004 FS-4

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:04

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Dichloromethane	25	ug/kg	EPA 8260B	5	B	12/20/2002 05:04 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:04 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:04 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 05:04 JKL

/ /

MARTEL NO. 91236 000004 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	100	%	EPA 8260B			12/20/2002 05:04 JKL
Dibromofluoromethane	66	%	EPA 8260B			12/20/2002 05:04 JKL
Toluene-d8	89	%	EPA 8260B			12/20/2002 05:04 JKL
						/ /
Solids (Total)	86	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000005 FSS-4 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time 12/18/2002 11:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 05:48 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:48 JKL
Benzene	70	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:48 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Dichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Ethylbenzene	230	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:48 JKL
Isopropylbenzene	67	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL

MARTEL NO. 91236 000005 FSS-4

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 05:48 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Styrene	9.7	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Toluene	51	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
Xylene, Total	100	ug/kg	EPA 8260B	5		12/20/2002 05:48 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	104	%	EPA 8260B			12/20/2002 05:48 JKL
Dibromofluoromethane	106	%	EPA 8260B			12/20/2002 05:48 JKL
Toluene-d8	83	%	EPA 8260B			12/20/2002 05:48 JKL
						/ /
Solids (Total)	78	%	EPA 160.3			12/19/2002 12:12 TB
Diesel Range Organics by GC/FID	450	mg/kg	EPA 8015M	1		12/23/2002 17:27 TEH
						/ /
						/ /
Gasoline Range Organics by GC-FID	54	mg/kg	EPA 8015M	1		12/19/1902 13:54 SAK
						/ /
						/ /

MARTEL NO. 91236 000006 FSS-3

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:45

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 06:31 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 06:31 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL

MARTEL NO. 91236 000006 FSS-3

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:45

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 06:31 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Dichloromethane	12	ug/kg	EPA 8260B	5	B	12/20/2002 06:31 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 06:31 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 06:31 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL

MARTEL NO. 91236 000006 FSS-3 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 11:45

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 06:31 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	100	%	EPA 8260B			12/20/2002 06:31 JKL
Dibromofluoromethane	59	%	EPA 8260B			12/20/2002 06:31 JKL
Toluene-d8	91	%	EPA 8260B			12/20/2002 06:31 JKL
						/ /
Solids (Total)	84	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000007 FSS-1 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 12:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 07:14 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:14 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:14 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Dichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL

MARTEL NO. 91236 000007 FSS-1 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 12:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:14 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:14 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 07:14 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	102	%	EPA 8260B			12/20/2002 07:14 JKL
Dibromofluoromethane	87	%	EPA 8260B			12/20/2002 07:14 JKL
Toluene-d8	91	%	EPA 8260B			12/20/2002 07:14 JKL
						/ /
Solids (Total)	85	%	EPA 160.3			12/19/2002 12:12 TB
Diesel Range Organics by GC/FID	150	mg/kg	EPA 8015M	1		12/23/2002 17:27 TEH
						/ /
						/ /
Gasoline Range Organics by GC-FID	19	mg/kg	EPA 8015M	1		12/19/1902 14:36 SAK
						/ /
						/ /

MARTEL NO. 91236 000008 FS-2 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 12:40

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 07:59 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:59 JKL

MARTEL NO. 91236 000008 FS-2

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 12:40

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:59 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Dichloromethane	15	ug/kg	EPA 8260B	5	B	12/20/2002 07:59 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:59 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 07:59 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL

MARTEL NO. 91236 000008 FS-2

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 12:40

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 07:59 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	99	%	EPA 8260B			12/20/2002 07:59 JKL
Dibromofluoromethane	63	%	EPA 8260B			12/20/2002 07:59 JKL
Toluene-d8	94	%	EPA 8260B			12/20/2002 07:59 JKL
						/ /
Solids (Total)	79	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000009 FSS-2

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 12:45

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 08:42 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 08:42 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 08:42 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL

MARTEL NO. 91236 000009 FSS-2

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 12:45

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Dichloromethane	20	ug/kg	EPA 8260B	5	B	12/20/2002 08:42 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 08:42 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 08:42 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,1,2,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 08:42 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	100	%	EPA 8260B			12/20/2002 08:42 JKL
Dibromofluoromethane	67	%	EPA 8260B			12/20/2002 08:42 JKL
Toluene-d8	104	%	EPA 8260B			12/20/2002 08:42 JKL
						/ /
Solids (Total)	80	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000010 FS-7

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Solids (Total)	77	%	EPA 160.3			12/19/2002 12:12 TB
Diesel Range Organics by GC/FID	47	mg/kg	EPA 8015M	1		12/23/2002 17:27 TEH
						/ /
						/ /
Gasoline Range Organics by GC-FID	11	mg/kg	EPA 8015M	1		12/19/1902 15:19 SA
						/ /

MARTEL NO. 91236 000010 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
						/ /

MARTEL NO. 91236 000011 FSS-7 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time 12/18/2002 13:05

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 09:25 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 09:25 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 09:25 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Dichloromethane	32	ug/kg	EPA 8260B	5	B	12/20/2002 09:25 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 09:25 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 09:25 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL

MARTEL NO. 91236 000011 FSS-7 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 13:05

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
1,1,2,2-Tetrachloroethane	6.7	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 09:25 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	100	%	EPA 8260B			12/20/2002 09:25 JKL
Dibromofluoromethane	60	%	EPA 8260B			12/20/2002 09:25 JKL
Toluene-d8	89	%	EPA 8260B			12/20/2002 09:25 JKL
						/ /
Solids (Total)	76	%	EPA 160.3			12/19/2002 12:12 TB

MARTEL NO. 91236 000012 FS-8 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 13:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Solids (Total)	77	%	EPA 160.3			12/19/2002 12:12 TB
Diesel Range Organics by GC/FID	29	mg/kg	EPA 8015M	1		12/23/2002 17:27 TEH
						/ /
						/ /
Gasoline Range Organics by GC-FID	5.7	mg/kg	EPA 8015M	1		12/19/1902 16:00 SAK
						/ /
						/ /

MARTEL NO. 91236 000013 FSS-8 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 13:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			12/20/2002 10:09 JKL
						/ /
Acetone	ND	ug/kg	EPA 8260B	25		12/20/2002 10:09 JKL
Benzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Bromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Bromodichloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL

MARTEL NO. 91236 000013 FSS-8

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Bromoform	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Bromomethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
2-Butanone	ND	ug/kg	EPA 8260B	25		12/20/2002 10:09 JKL
Carbon disulfide	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Carbon tetrachloride	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Chlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Chloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Chloroform	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Chloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
cis-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
cis-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Cyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,2-Dibromo-3-chloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Dibromochloromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,2-Dibromoethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Dichlorodifluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,2-Dichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Dichloromethane	53	ug/kg	EPA 8260B	5	B	12/20/2002 10:09 JKL
1,2-Dichloropropane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Ethylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
2-Hexanone	ND	ug/kg	EPA 8260B	25		12/20/2002 10:09 JKL
Isopropylbenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Methyl Acetate	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
4-Methyl-2-pentanone	ND	ug/kg	EPA 8260B	25		12/20/2002 10:09 JKL
Methyl-t-butyl ether	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Methylcyclohexane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Styrene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1,1,2-Tetrachloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1,2,2-Tetrachloroethane	6.9	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Tetrachloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Toluene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
trans-1,2-Dichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
trans-1,3-Dichloropropene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,2,3-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1,1-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
1,1,2-Trichloroethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Trichloroethene	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Trichlorofluoromethane	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL

MARTEL NO. 91236 000013 FSS-8

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Vinyl chloride	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
Xylene, Total	ND	ug/kg	EPA 8260B	5		12/20/2002 10:09 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	99	%	EPA 8260B			12/20/2002 10:09 JKL
Dibromofluoromethane	65	%	EPA 8260B			12/20/2002 10:09 JKL
Toluene-d8	92	%	EPA 8260B			12/20/2002 10:09 JKL
						/ /
Solids (Total)	74	%	EPA 160.3			12/19/2002 12:12 TB

RD083748

All Procedures used are in accordance with the following methods:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, U.S. EPA Washington D.C., Third Edition, December 1996. Martel is not responsible for sample collection or transportation to the laboratory.

QC _____ Project Manager _____

Date 1/13/3 Total Pages _____ Date 1/13/03

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FS 6

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 1

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122004.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 6

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 91236 2

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122005.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 5

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 3

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122006.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FS 4

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 4

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122007.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 4

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 5

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122008.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 10

	CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	000108-87-2	Cyclohexane, methyl-	8.98	72	JN
2.	000592-27-8	Heptane, 2-methyl-	9.71	40	JN
3.	000638-04-0	Cyclohexane, 1,3-dimethyl-, cis-	10.67	67	JN
4.	001678-91-7	Cyclohexane, ethyl-	12.67	43	JN
5.	001678-92-8	Cyclohexane, propyl-	15.72	49	JN
6.	000611-14-3	Benzene, 1-ethyl-2-methyl-	18.16	44	JN
7.	000637-50-3	Benzene, 1-propenyl-	20.29	42	JN
8.	000535-77-3	Benzene, 1-methyl-3-(1-methylet	21.13	40	JN
9.	015677-15-3	Cycloprop[a]indene, 1,1a,6,6a-tet	23.61	46	JN
10.	000091-57-6	Naphthalene, 2-methyl-	28.28	93	JN

536

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 3

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 91236 6

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122009.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 2

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000091-57-6	Naphthalene, 2-methyl-	28.27	22	JN
2. 000092-52-4	Biphenyl	29.70	6	JN

28

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 1

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 7

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122010.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FS 2

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 8

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122011.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 2

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 91236 9

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122012.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 7

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91236 11

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122013.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 8

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 91236 13

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122014.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No. FS 6 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	100	0.0	63	63	40 - 130
Benzene	100	0.0	69	69	40 - 130
Trichloroethene	100	0.0	70	70	40 - 130
Toluene	100	0.0	77	77	40 - 130
Chlorobenzene	100	0.0	74	74	40 - 130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	100	61	61	3	60	40 - 130
Benzene	100	71	71	3	60	40 - 130
Trichloroethene	100	60	60	15	60	40 - 130
Toluene	100	64	64	18	60	40 - 130
Chlorobenzene	100	70	70	6	60	40 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

BLK

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Blank

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122003.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
	Dichlorodifluoromethane	5	U
	Chloromethane	5	U
	Vinyl chloride	5	U
	Bromomethane	5	U
	Chloroethane	5	U
	Trichlorofluoromethane	5	U
	1,1-Dichloroethene	5	U
	Acetone	25	U
	Iodomethane	5	U
	Carbon disulfide	5	U
	Methylene chloride	5	U
	MTBE	5	U
	trans-1,2-Dichloroethene	5	U
	Acrylonitrile	5	U
	1,1-Dichloroethane	5	U
	Vinyl acetate	5	U
	2,2-Dichloropropane	5	U
	cis-1,2-Dichloroethene	5	U
	2-Butanone	25	U
	Bromochloromethane	5	U
	Chloroform	5	U
	1,1,1-Trichloroethane	5	U
	Carbon tetrachloride	5	U
	1,1-Dichloropropene	5	U
	Benzene	5	U
	1,2-Dichloroethane	5	U
	Trichloroethene	5	U
	1,2-Dichloropropane	5	U
	Dibromomethane	5	U
	Bromodichloromethane	5	U
	cis-1,3-Dichloropropene	5	U
	4-Methyl-2-pentanone	25	U
	Toluene	5	U
	trans-1,3-Dichloropropene	5	U
	1,1,2-Trichloroethane	5	U
	1,3-Dichloropropane	5	U
	Tetrachloroethene	5	U
	2-Hexanone	25	U
	Dibromochloromethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Blank

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122003.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0` Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
	Chlorobenzene	5	U
	1,2-Dibromoethane	5	U
	Ethylbenzene	5	U
	1,1,1,2-Tetrachloroethane	5	U
	m,p-Xylene	10	U
	o-Xylene	5	U
	Styrene	5	U
	Bromoform	5	U
	Isopropylbenzene	5	U
	trans-1,4-dichloro-2-butene	5	U
	Bromobenzene	5	U
	1,1,2,2-Tetrachloroethane	5	U
	n-Propylbenzene	5	U
	1,2,3-Trichloropropane	5	U
	2-Chlorotoluene	5	U
	1,3,5-Trimethylbenzene	5	U
	4-Chlorotoluene	5	U
	t-Butylbenzene	5	U
	1,2,4-Trimethylbenzene	5	U
	s-Butylbenzene	5	U
	1,3-Dichlorobenzene	5	U
	p-Isopropyltoluene	5	U
	1,4-Dichlorobenzene	5	U
	1,2-Dibromo-3-chloropropane	5	U
	n-Butylbenzene	5	U
	1,2-Dichlorobenzene	5	U
	1,2,4-Trichlorobenzene	5	U
	Hexachlorobutadiene	5	U
	Naphthalene	5	U
	1,2,3-Trichlorobenzene	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BLK

Lab Name: Martel Labs JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Blank

Sample wt/vol: 5.0 (g/ml) G Lab File ID: A2122003.D

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. 0 Date Analyzed: 12/20/02

GC Column: Rtx 502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

MARTEL QC

Sensible Scientific Solutions

Quality Control Report

Monday, January 20, 2003

Blank Results

Test Name: **Solids (Total)**

Date of Test	Time of Analysis	Analytic Result	Unit of Measure
12/19/2002	12:12	<1	%
12/19/2002	12:12	<1	%

1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

Martel Laboratories *JDS* **Inc.**
1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

MARTEL QC

Sensible Scientific Solutions

Quality Control Report

Monday, January 20, 2003

Replicate Results

Test Name: **Solids (Total)**

Date of Test	Time of Analysis	Sample Identification	Analytic Result A	Analytic Result B	Units	RPD
12/19/2002	12:12	91198: Primary Sludge	3.3	3.4	%	2.985
12/19/2002	12:12	91236: FS-8	75	77	%	2.632

1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

Martel Laboratories *JDS* **Inc.**
1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

MARTEL CHAIN OF CUSTODY / SAMPLE INFORMATION FORM

Martel Laboratories JDS Inc. • 1025 Cromwell Bridge Road • Baltimore, MD 21286 • (410) 825-7790 • FAX (410) 821-1054

MARTEL Log # 912360 Client Code MDE

Client Name/Phone/FAX MDE / Scott Morgan / 410-537-3213 / -3472

Client Address 1800 Washington Blvd, Suite 625

Invoice Address Balt., MD

Sampler Scott Morgan / Andy Zarin

Project Name/# Frederick, Site I

Contract/P.O Number

Sample Turnaround Time Std.

	Station No / Sample ID	Station Location	Matrix	Container Description/ Preservation Status	Potentially Hazardous?	# of Containers	Date	Time	Analyses Required/Comments
1	FS-6		Soil	1-4oz	No	1	12/18/02	9:52	VOC
2	FSS-6		Soil	1-4oz, 1-8oz	No	2		9:57	VOC, DRO/GRO
3	FSS-5			1-4oz		1		10:25	VOC
4	FS-4			1-4oz		1		11:04	VOC
5	FSS-4			1-4oz, 1-8oz		2		1110	VOC, DRO/GRO
6	FSS-3			14oz		1		1145	VOC
7	FSS-1			14oz, 1-8oz		2		1200	VOC, DRO/GRO
8	FS-2			1-4oz		1		1240	VOC
9	FSS-2			1-4oz		1		1245	VOC
10	FS-7			1-8oz		1		1300	DRO/GRO
11	FSS-7			1-4oz		1		1305	VOC
12	FS-8			1-8oz		1		1316	DRO/GRO
13	FSS-8			1-4oz		1		1310	VOC

Transferred by: 12/18/02	Received by:	Date 12-18-02	Time 1520
Transferred by:	Received by:	Date	Time
Transferred by:	Received by:	Date	Time

Cooler Receipt Information (LAB USE ONLY)

Sufficient ice? - Yes/No If No, temp.= _____

Sample containers pres'd? - Yes/No If No, explain N/A

Custody Seal present/intact? - Yes/No

Initials: BSTA Date: 12/18/02

MARTEL

Sensible Scientific Solutions

Certificate of Analysis

Friday, January 31, 2003

Prepared expressly for:

State of Maryland - MDE
1800 Washington Blvd
Suite 625
Baltimore, Maryland 21230

Attention: Scott Morgan

Report for Lab No: 91401.
Samples received by Martel.
Project Identification: Frederick, Site I No. 65586

RECEIVED
FEB 04 2003
ERRP

MARTEL NO. 91401 000001 MW-2

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/26/2002 10:30

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			01/02/2003 03:03 JKL
						/ /
Acetone	ND	ug/l	EPA 8260B	5		01/02/2003 03:03 JKL
Benzene	85	ug/l	EPA 8260B	50		01/02/2003 06:53 JKL
Bromochloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Bromodichloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Bromoform	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Bromomethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
2-Butanone	ND	ug/l	EPA 8260B	5		01/02/2003 03:03 JKL
Carbon disulfide	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Carbon tetrachloride	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Chlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Chloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Chloroform	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Chloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
cis-1,2-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
cis-1,3-Dichloropropene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Cyclohexane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2-Dibromo-3-chloropropane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Dibromochloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2-Dibromoethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,3-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,4-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Dichlorodifluoromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1-Dichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2-Dichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Dichloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2-Dichloropropane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Ethylbenzene	5700	ug/l	EPA 8260B	100		01/02/2003 07:37 JKL
2-Hexanone	ND	ug/l	EPA 8260B	5		01/02/2003 03:03 JKL

MARTEL NO. 91401 000001 MW-2

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/26/2002 10:30

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Isopropylbenzene	260	ug/l	EPA 8260B	50		01/02/2003 06:53 JKL
Methyl Acetate	ND	ug/l	EPA 8260B	1		01/02/2003 06:53 JKL
4-Methyl-2-pentanone	ND	ug/l	EPA 8260B	5		01/02/2003 03:03 JKL
Methyl-t-butyl ether	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Methylcyclohexane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Styrene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1,1,2-Tetrachloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1,2,2-Tetrachloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Tetrachloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Toluene	230	ug/l	EPA 8260B	50		01/02/2003 06:53 JKL
trans-1,2-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
trans-1,3-Dichloropropene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2,3-Trichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,2,4-Trichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1,1-Trichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
1,1,2-Trichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Trichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Trichlorofluoromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Vinyl chloride	ND	ug/l	EPA 8260B	1		01/02/2003 03:03 JKL
Xylene, Total	7400	ug/l	EPA 8260B	50		01/02/2003 06:53 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	94	%	EPA 8260B			01/02/2003 03:03 JKL
Dibromofluoromethane	85	%	EPA 8260B			01/02/2003 03:03 JKL
Toluene-d8	85	%	EPA 8260B			01/02/2003 03:03 JKL
						/ /

MARTEL NO. 91401 000002 MW-1

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/26/2002 10:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			01/02/2003 03:47 JKL
						/ /
Acetone	ND	ug/l	EPA 8260B	5		01/02/2003 03:47 JKL
Benzene	9600	ug/l	EPA 8260B	100		01/02/2003 09:04 JKL
Bromochloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Bromodichloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Bromoform	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Bromomethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
2-Butanone	ND	ug/l	EPA 8260B	5		01/02/2003 03:47 JKL
Carbon disulfide	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Carbon tetrachloride	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL

MARTEL NO. 91401 000002 MW-1

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/26/2002 10:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Chlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Chloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Chloroform	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Chloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
cis-1,2-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
cis-1,3-Dichloropropene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Cyclohexane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2-Dibromo-3-chloropropane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Dibromochloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2-Dibromoethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,3-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,4-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Dichlorodifluoromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1-Dichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2-Dichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Dichloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2-Dichloropropane	4.9	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Ethylbenzene	3700	ug/l	EPA 8260B	50		01/02/2003 08:20 JKL
2-Hexanone	ND	ug/l	EPA 8260B	5		01/02/2003 03:47 JKL
Isopropylbenzene	110	ug/l	EPA 8260B	50		01/02/2003 08:20 JKL
Methyl Acetate	ND	ug/l	EPA 8260B	1		01/02/2003 08:20 JKL
4-Methyl-2-pentanone	ND	ug/l	EPA 8260B	5		01/02/2003 03:47 JKL
Methyl-t-butyl ether	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Methylcyclohexane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Styrene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1,1,2-Tetrachloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1,2,2-Tetrachloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Tetrachloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Toluene	3100	ug/l	EPA 8260B	50		01/02/2003 08:20 JKL
trans-1,2-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
trans-1,3-Dichloropropene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2,3-Trichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,2,4-Trichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1,1-Trichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
1,1,2-Trichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Trichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Trichlorofluoromethane	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Vinyl chloride	ND	ug/l	EPA 8260B	1		01/02/2003 03:47 JKL
Xylene, Total	4800	ug/l	EPA 8260B	50		01/02/2003 08:20 JKL
						/ /
Surrogate Spike						/ /

MARTEL NO. 91401 000002 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
						/ /
4-Bromofluorobenzene	96	%	EPA 8260B			01/02/2003 03:47 JKL
Dibromofluoromethane	120	%	EPA 8260B			01/02/2003 03:47 JKL
Toluene-d8	111	%	EPA 8260B			01/02/2003 03:47 JKL
						/ /

MARTEL NO. 91401 000003 MW-1 drum — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time 12/26/2002 10:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Volatile Organic Compounds			EPA 8260			01/02/2003 09:48 JKL
						/ /
Acetone	ND	ug/l	EPA 8260	500		01/02/2003 09:48 JKL
Benzene	7200	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Bromochloromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Bromodichloromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Bromoform	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Bromomethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
2-Butanone	ND	ug/l	EPA 8260	500		01/02/2003 09:48 JKL
Carbon disulfide	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Carbon tetrachloride	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Chlorobenzene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Chloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Chloroform	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Chloromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
cis-1,2-Dichloroethene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
cis-1,3-Dichloropropene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Cyclohexane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2-Dibromo-3-chloropropane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Dibromochloromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2-Dibromoethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2-Dichlorobenzene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,3-Dichlorobenzene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,4-Dichlorobenzene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Dichlorodifluoromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1-Dichloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2-Dichloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1-Dichloroethene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Dichloromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2-Dichloropropane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Ethylbenzene	4800	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
2-Hexanone	ND	ug/l	EPA 8260	500		01/02/2003 09:48 JKL
Isopropylbenzene	140	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Methyl Acetate	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL

MARTEL NO. 91401 000003 | CLIENT SAMPLE IDENTIFICATION: MW-1 drum | Sample Date/Time: 12/26/2002 10:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
4-Methyl-2-pentanone	ND	ug/l	EPA 8260	500		01/02/2003 09:48 JKL
Methyl-t-butyl ether	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Methylcyclohexane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Styrene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1,1,2-Tetrachloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1,2,2-Tetrachloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Tetrachloroethene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Toluene	1100	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
trans-1,2-Dichloroethene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
trans-1,3-Dichloropropene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2,3-Trichlorobenzene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,2,4-Trichlorobenzene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1,1-Trichloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
1,1,2-Trichloroethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Trichloroethene	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Trichlorofluoromethane	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Vinyl chloride	ND	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
Xylene, Total	5700	ug/l	EPA 8260	100		01/02/2003 09:48 JKL
						/ /
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	99	%	EPA 8260			01/02/2003 09:48 JKL
Dibromofluoromethane	89	%	EPA 8260			01/02/2003 09:48 JKL
Toluene-d8	104	%	EPA 8260			01/02/2003 09:48 JKL
						/ /
Base/Neutral/Acid Extractables			EPA 8270C			01/06/2003 17:45 JKL
						/ /
Acenaphthene	510	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
Acenaphthylene	62	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Anthracene	ND	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
Benzo[a]anthracene	140	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Benzo[b]fluoranthene	58	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Benzo[k]fluoranthene	82	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Benzo[ghi]perylene	120	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Benzo[a]pyrene	ND	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
Bis-(2-chloroethoxy)methane	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Bis-(2-chloroethyl)ether	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Bis(2-chloroisopropyl)ether	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Bromophenyl phenyl ether	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Benzyl butyl phthalate	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Carbazole	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Chloroaniline	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Chloro-3-methylphenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL

MARTEL NO. 91401 000003 | CLIENT SAMPLE IDENTIFICATION: MW-1 drum | Sample Date/Time: 12/26/2002 10:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
2-Chloronaphthalene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2-Chlorophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Chlorophenyl phenyl ether	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Chrysene	140	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Dibenz[a,h]anthracene	20	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Dibenzofuran	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Di-n-butyl phthalate	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
1,2-Dichlorobenzene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
1,3-Dichlorobenzene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
1,4-Dichlorobenzene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
3,3'-Dichlorobenzidine	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,4-Dichlorophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Diethyl phthalate	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,4-Dimethylphenol	20	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Dimethyl phthalate	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4,6-Dinitro-2-methylphenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,4-Dinitrophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,4-Dinitrotoluene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,6-Dinitrotoluene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Di-n-octyl phthalate	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Bis-(2-ethylhexyl)-phthalate	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Fluoranthene	ND	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
Fluorene	ND	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
Hexachlorobenzene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Hexachlorocyclopentadiene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Hexachloroethane	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Indeno-(1,2,3-cd)-pyrene	70	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Isophorone	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2-Methylnaphthalene	1200	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
2-Methylphenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Methylphenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Naphthalene	3900	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
2-Nitroaniline	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
3-Nitroaniline	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Nitroaniline	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Nitrobenzene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2-Nitrophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
4-Nitrophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
N-Nitrosodiphenylamine	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
N-Nitroso-di-N-propylamine	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Pentachlorophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Phenanthrene	1400	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL
Phenol	20	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Pyrene	810	ug/l	EPA 8270C	500		01/07/2003 9:54 JKL

MARTEL NO. 91401 000003 | CLIENT SAMPLE IDENTIFICATION: MW-1 drum | Sample Date/Time: 12/26/2002 10:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
1,2,4-Trichlorobenzene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,4,5-Trichlorophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
2,4,6-Trichlorophenol	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
N-Nitrosodimethylamine	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Hexachlorobutadiene	ND	ug/l	EPA 8270C	5		01/06/2003 17:45 JKL
Surrogate Spike						/ /
						/ /
						/ /
2,4,6-Tribromophenol	69	%	EPA 8270C			01/06/2003 17:45 JKL
2-Fluorobiphenyl	87	%	EPA 8270C			01/06/2003 17:45 JKL
2-Fluorophenol	51	%	EPA 8270C			01/06/2003 17:45 JKL
Nitrobenzene-d5	87	%	EPA 8270C			01/06/2003 17:45 JKL
Phenol-d6	35	%	EPA 8270C			01/06/2003 17:45 JKL
Terphenyl-d14	83	%	EPA 8270C			01/06/2003 17:45 JKL
Organochlorine Pesticides and PCB's			EPA 8081A			/ / 01/14/2003 08:52 SAK
						/ /
Aldrin	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
a-BHC	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
b-BHC	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
g-BHC (Lindane)	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
d-BHC	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Chlordane	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
4,4'-DDD	ND	ug/l	EPA 8081A	0.2		01/14/2003 08:52 SAK
4,4'-DDE	ND	ug/l	EPA 8081A	0.2		01/14/2003 08:52 SAK
4,4'-DDT	ND	ug/l	EPA 8081A	0.2		01/14/2003 08:52 SAK
Dieldrin	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Endosulfan I	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Endosulfan II	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Endosulfan Sulfate	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Endrin	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Endrin Aldehyde	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Heptachlor	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Heptachlor Epoxide	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Methoxychlor	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
Endrin Ketone	ND	ug/l	EPA 8081A	0.05		01/14/2003 08:52 SAK
Toxaphene	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1016	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1221	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1232	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1242	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1248	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1254	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK
PCB-1260	ND	ug/l	EPA 8081A	0.5		01/14/2003 08:52 SAK

MARTEL NO. 91401 000003 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Surrogate Spike						/ /
						/ /
2,4,5,6-Tetrachlorometaxylene	55	%	EPA 8081A			/ /
Decachlorobiphenyl	106	%	EPA 8081A			01/14/2003 08:52 SAK
						01/14/2003 08:52 SAK
PCB's as Aroclors by Capillary GC	<0.5	ug/l	EPA 8082	0.5		/ /
						01/07/2003 19:08 SAK
						/ /
Diesel Range Organics by GC/FID	83	mg/l	EPA 8015M	0.5		/ /
						/ /
						/ /
Gasoline Range Organics by GC-FID	120	mg/l	EPA 8015M	10		/ /
						01/03/2003 09:22 SAK
						/ /
Antimony	<100	ug/l	EPA 6020	100		/ /
Arsenic	700	ug/l	EPA 6020	40		01/29/2003 14:46 LB
Beryllium	170	ug/l	EPA 6020	10		01/29/2003 14:46 LB
Cadmium	46	ug/l	EPA 6020	10		01/29/2003 14:46 LB
Chromium	1200	ug/l	EPA 6020	40		01/29/2003 14:46 LB
Copper	2100	ug/l	EPA 6020	40		01/29/2003 14:46 LB
Lead	2000	ug/l	EPA 6020	40		01/29/2003 14:46 LB
Manganese	28000	ug/l	EPA 6020	80		01/29/2003 14:38 LB
Mercury	15	ug/l	EPA 7470A	0.5		01/06/2003 11:08 LB
Nickel	1700	ug/l	EPA 6020	40		01/29/2003 14:46 LB
Selenium	<100	ug/l	EPA 6020	100		01/29/2003 14:46 LB
Silver	<20	ug/l	EPA 6020	20		01/29/2003 14:46 LB
Thallium	<40	ug/l	EPA 6020	40		01/29/2003 14:46 LB
Zinc	6200	ug/l	EPA 6020	100		01/29/2003 14:46 LB

MARTEL NO. 91401 0004TB Trip Blank | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/26/2002 00:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
VOC by GCMS Capillary			EPA 8260B			01/02/2003 11:59 JKL
						/ /
Acetone	ND	ug/l	EPA 8260B	5		01/02/2003 11:59 JKL
Benzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Bromochloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Bromodichloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Bromoform	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Bromomethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
2-Butanone	ND	ug/l	EPA 8260B	5		01/02/2003 11:59 JKL
Carbon disulfide	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JL

MARTEL NO. 91401 0004TB Trip Blank

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/26/2002 00:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Carbon tetrachloride	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Chlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Chloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Chloroform	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Chloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
cis-1,2-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
cis-1,3-Dichloropropene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Cyclohexane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2-Dibromo-3-chloropropane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Dibromochloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2-Dibromoethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,3-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,4-Dichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Dichlorodifluoromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1-Dichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2-Dichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Dichloromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2-Dichloropropane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Ethylbenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
2-Hexanone	ND	ug/l	EPA 8260B	5		01/02/2003 11:59 JKL
Isopropylbenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Methyl Acetate	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
4-Methyl-2-pentanone	ND	ug/l	EPA 8260B	5		01/02/2003 11:59 JKL
Methyl-t-butyl ether	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Methylcyclohexane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Styrene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1,1,2-Tetrachloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1,2,2-Tetrachloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Tetrachloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Toluene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
trans-1,2-Dichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
trans-1,3-Dichloropropene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1,2-Trichlo-1,2,2-trifluoroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2,3-Trichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,2,4-Trichlorobenzene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1,1-Trichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
1,1,2-Trichloroethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Trichloroethene	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Trichlorofluoromethane	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Vinyl chloride	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL
Xylene, Total	ND	ug/l	EPA 8260B	1		01/02/2003 11:59 JKL

/ /

MARTEL NO. 91401 0004TB

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Surrogate Spike						/ /
						/ /
4-Bromofluorobenzene	101	%	EPA 8260B			01/02/2003 11:59 JKL
Dibromofluoromethane	115	%	EPA 8260B			01/02/2003 11:59 JKL
Toluene-d8	115	%	EPA 8260B			01/02/2003 11:59 JKL
						/ /

Martel Laboratories JDS Inc.

1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

All Procedures used are in accordance with the following methods:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, U.S. EPA Washington D.C., Third Edition, December 1996. Martel is not responsible for sample collection or transportation to the laboratory.

QC _____ Date 1/31/3

Total Pages 25

Project Manager _____ Vincent Kuyawa Date 1/31/03

Martel Laboratories JDS Inc.

1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW 1 drum

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 91401 3

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C3010605.D

Level: (low/med) LOW Date Received: 12/26/2002

% Moisture: _____ decanted: (Y/N) N Date Extracted: 1/2/2003

Concentrated Extract Volume: 1 (uL) Date Analyzed: 1/6/2003

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000611-14-3	Benzene, 1-ethyl-2-methyl-	6.67	1400	JN
2. 000622-96-8	Benzene, 1-ethyl-4-methyl-	6.87	290	JN
3. 000124-18-5	Decane	6.96	230	JN
4. 000622-97-9	Benzene, 1-ethenyl-4-methyl-	7.33	500	JN
5. 000496-11-7	Indane	7.50	1600	JN
6. 000095-13-6	Indene	7.59	1300	JN
7. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	7.89	540	JN

5860

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BLK_w

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: Blank

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C3010603.D

Level: (low/med) LOW Date Received: 12/26/2002

% Moisture: _____ decanted: (Y/N) N Date Extracted: 1/2/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 1/6/2003

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK_w

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: Blank

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C3010603.D

Level: (low/med) LOW Date Received: 12/26/2002

% Moisture: _____ decanted:(Y/N) N Date Extracted: 1/2/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 1/6/2003

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
3855-82-1	N-Nitrosodimethylamine	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-50-1	Benzyl alcohol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	2-Methylphenol	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	4-Methylphenol	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
67-72-1	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-06-2	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
	3-Nitroaniline	5	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	5	U
132-64-9	Dibenzofuran	5	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BLK_w

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: Blank

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C3010603.D

Level: (low/med) LOW Date Received: 12/26/2002

% Moisture: _____ decanted:(Y/N) N Date Extracted: 1/2/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 1/6/2003

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	5	U
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
	4-Nitroaniline	5	U
534-52-1	4,6-Dinitro-2-methylphenol	5	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	5	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
	Carbazole	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
3855-82-1	Benzidine	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: LCS

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C3010604.D

Level: (low/med) LOW Date Received: 12/26/2002

% Moisture: _____ decanted:(Y/N) N Date Extracted: 1/2/2003

Concentrated Extract Volume: 1 (uL) Date Analyzed: 1/6/2003

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
3855-82-1	N-Nitrosodimethylamine	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	45	
95-57-8	2-Chlorophenol	77	
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	42	
95-50-1	1,2-Dichlorobenzene	5	U
95-50-1	Benzyl alcohol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	2-Methylphenol	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	54	
67-72-1	4-Methylphenol	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	44	
91-20-3	Naphthalene	5	U
	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	110	E
	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
67-72-1	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-06-2	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
	3-Nitroaniline	5	U
83-32-9	Acenaphthene	48	
51-28-5	2,4-Dinitrophenol	5	U
132-64-9	Dibenzofuran	5	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LCS

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: LCS

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C3010604.D

Level: (low/med) LOW Date Received: 12/26/2002

% Moisture: _____ decanted:(Y/N) N Date Extracted: 1/2/2003

Concentrated Extract Volume: 1 (uL) Date Analyzed: 1/6/2003

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	44	
100-02-7	4-Nitrophenol	46	
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
	4-Nitroaniline	5	U
534-52-1	4,6-Dinitro-2-methylphenol	5	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	72	
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
	Carbazole	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	50	
3855-82-1	Benzidine	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW 2

Lab Name: Martel, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 91401 1

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: A3010206.D

Level: (low/med) LOW Date Received: 12/26/02

% Moisture: not dec. _____ Date Analyzed: 1/2/03

GC Column: _____ ID: _____ (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000096-37-7	Cyclopentane, methyl-	5.98	41	JN
2. 000693-89-0	Cyclopentene, 1-methyl-	6.92	35	JN
3. 000110-82-7	Cyclohexane	7.12	120	JN
4. 002597-49-1	Cyclobutane, ethenyl-	7.91	230	JN
5. 001541-20-4	Bi-2-cyclohexen-1-yl	8.23	47	JN
6. 034462-28-7	Cyclopropane, trimethylmethylen	8.62	41	JN
7. 000108-87-2	Cyclohexane, methyl-	8.94	160	JN
8. 000591-47-9	Cyclohexene, 4-methyl-	9.72	120	JN
9. 001192-37-6	Cyclohexane, methylene-	9.88	76	JN
10. 000591-49-1	Cyclohexene, 1-methyl-	10.76	150	JN

1020

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW 1

Lab Name: Martel, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 91401 2

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: A3010207.D

Level: (low/med) LOW Date Received: 12/26/02

% Moisture: not dec. _____ Date Analyzed: 1/2/03

GC Column: _____ ID: _____ (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 9

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000115-11-7	1-Propene, 2-methyl-	2.45	24	JN
2. 000109-67-1	1-Pentene	3.16	32	JN
3. 000627-20-3	2-Pentene, (Z)-	3.33	24	JN
4. 000513-35-9	2-Butene, 2-methyl-	3.53	95	JN
5. 000142-29-0	Cyclopentene	4.43	26	JN
6. 000110-83-8	Cyclohexene	7.94	120	JN
7. 000496-11-7	Indane	20.24	48	JN
8. 000095-13-6	Indene	20.71	34	JN
9. 015677-15-3	Cycloprop[a]indene, 1,1a,6,6a-tet	23.51	16	JN

4/9

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW 1 drum

Lab Name: Martel, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 91401 3

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: A3010215.D

Level: (low/med) LOW Date Received: 12/26/02

% Moisture: not dec. _____ Date Analyzed: 1/2/03

GC Column: _____ ID: _____ (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 002597-49-1	Cyclobutane, ethenyl-	7.88	170	JN
2. 000611-14-3	Benzene, 1-ethyl-2-methyl-	17.40	1100	JN
3. 000622-96-8	Benzene, 1-ethyl-4-methyl-	18.10	220	JN
4. 000100-80-1	Benzene, 1-ethenyl-3-methyl-	19.61	220	JN
5. 000873-49-4	Benzene, cyclopropyl-	20.23	1700	JN
6. 000095-13-6	Indene	20.69	1200	JN
7. 000767-59-9	1H-Indene, 1-methyl-	23.50	310	JN
8. 002177-47-1	2-Methylindene	23.78	200	JN
9. 000091-57-6	Naphthalene, 2-methyl-	27.63	300	JN
10. 002443-46-1	Bicyclo[4.4.1]undeca-1,3,5,7,9-pe	28.22	170	JN

5590

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Trip Blk

Lab Name: Martel, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 91401 4TB

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: A3010218.D

Level: (low/med) LOW Date Received: 12/26/02

% Moisture: not dec. _____ Date Analyzed: 1/2/03

GC Column: _____ ID: _____ (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

BLK_w

Lab Name: Martel, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: Blank

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: A3010204.D

Level: (low/med) LOW Date Received: 12/26/02

% Moisture: not dec. _____ Date Analyzed: 1/2/03

GC Column: _____ ID: _____ (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
	Dichlorodifluoromethane	1	U
	Chloromethane	1	U
	Vinyl chloride	1	U
	Bromomethane	1	U
	Chloroethane	1	U
	Trichlorofluoromethane	1	U
	Acrolein	1	U
	1,1-Dichloroethene	1	U
	Acetone	5	U
	Iodomethane	1	U
	Carbon disulfide	1	U
	Methylene chloride	1	U
	MTBE	1	U
	trans-1,2-Dichloroethene	1	U
	Acrylonitrile	1	U
	1,1-Dichloroethane	1	U
	Vinyl acetate	1	U
	2,2-Dichloropropane	1	U
	cis-1,2-Dichloroethene	1	U
	2-Butanone	5	U
	Bromochloromethane	1	U
	Chloroform	1	U
	1,1,1-Trichloroethane	1	U
	Carbon tetrachloride	1	U
	1,1-Dichloropropene	1	U
	Benzene	1	U
	1,2-Dichloroethane	1	U
	Trichloroethene	1	U
	1,2-Dichloropropane	1	U
	Dibromomethane	1	U
	Bromodichloromethane	1	U
	cis-1,3-Dichloropropene	1	U
	4-Methyl-2-pentanone	5	U
	Toluene	1	U
	trans-1,3-Dichloropropene	1	U
	1,1,2-Trichloroethane	1	U
	1,3-Dichloropropane	1	U
	Tetrachloroethene	1	U
	2-Hexanone	5	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

BLK_w

Lab Name: Martel, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: Blank

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: A3010204.D

Level: (low/med) LOW Date Received: 12/26/02

% Moisture: not dec. _____ Date Analyzed: 1/2/03

GC Column: _____ ID: _____ (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
	Dibromochloromethane	1	U
	Chlorobenzene	1	U
	1,2-Dibromoethane	1	U
	Ethylbenzene	1	U
	1,1,1,2-Tetrachloroethane	1	U
	m,p-Xylene	1	U
	o-Xylene	1	U
	Styrene	1	U
	Bromoform	1	U
	Isopropylbenzene	1	U
	trans-1,4-dichloro-2-butene	1	U
	Bromobenzene	1	U
	1,1,2,2-Tetrachloroethane	1	U
	n-Propylbenzene	1	U
	1,2,3-Trichloropropane	1	U
	2-Chlorotoluene	1	U
	1,3,5-Trimethylbenzene	1	U
	4-Chlorotoluene	1	U
	t-Butylbenzene	1	U
	1,2,4-Trimethylbenzene	1	U
	s-Butylbenzene	1	U
	1,3-Dichlorobenzene	1	U
	p-Isopropyltoluene	1	U
	1,4-Dichlorobenzene	1	U
	1,2-Dibromo-3-chloropropane	1	U
	n-Butylbenzene	1	U
	1,2-Dichlorobenzene	1	U
	1,2,4-Trichlorobenzene	1	U
	Hexachlorobutadiene	1	U
	Naphthalene	1	U
	1,2,3-Trichlorobenzene	1	U

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Martel, JDS Contract: EAENG

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No 14010

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	20	0.0	16	80	60 - 130
Benzene	20	0.030	18	90	60 - 130
Trichloroethene	20	0.0	18	90	60 - 130
Toluene	20	0.0	20	100	60 - 130
Chlorobenzene	20	0.0	18	90	60 - 130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20	18	90	12	35	60 - 130
Benzene	20	20	100	11	35	60 - 130
Trichloroethene	20	22	110	20	35	60 - 130
Toluene	20	24	120	18	35	60 - 130
Chlorobenzene	20	20	100	11	35	60 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

9140'

CHAIN OF CUSTODY FORM

Project Name: Frederick, Site I No. 65586	Purchase Order / LOG IN #:
Client Organization: Maryland Department of the Environment	Project Manager: Scott Morgan
Address to Send Results: as above	
Client Fax for Sending Data: 410.537.3472	Lab Contact / Project Manager: Vince Kuyawa
Client Tel for Follow-up: 410.537.3493	Client Sampler / Recorder: S. Morgan, P. Andersen

Sample ID	Sampling		Matrix			Analyses							
	Date	Time	Soil	Water	Depth	Site	40mL HCL	1L Amber	1L Plastic				
MW-2	12/26/02	1030		X	NA	I	3	—		VOCs only			
MW-1	12/26/02	1000		X	NA	I	3	—		VOCs only			
MW-1 drum	12/26/02	1000		X	NA	I	6	3	1	Caution!! Sludge type			
										material possibly highly			
										contaminated w/ PAHs,			
Trip	12/26/02	—		X	NA	I	1			BNAs, SVOCs			

Chain of Custody Record

Relinquished by:	Date/Hr: 12/28/02	Received by:	Date/Hr: 12-27-02 / 1120
Received by:	Date/Hr:		

MARTEL

Sensible Scientific Solutions

Certificate of Analysis

Friday, January 31, 2003

Prepared expressly for:

State of Maryland - MDE
1800 Washington Blvd
Suite 625
Baltimore, Maryland 21230

Attention: Scott Morgan

Report for Lab No: 91290.
Samples received by Martel.
Project Identification: Frederick - Site 1

MARTEL NO. 91290 000001 FSS-1

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 12:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Base/Neutral/Acid Extractables			EPA 8270C			12/31/2002 16:24 JKL
						/ /
Acenaphthene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Acenaphthylene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Benzo[a]anthracene	2000	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Benzo[b]fluoranthene	1400	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Benzo[k]fluoranthene	1600	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Benzo[ghi]perylene	1500	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Benzo[a]pyrene	2300	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Bis-(2-chloroethoxy)methane	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Bis-(2-chloroethyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Bis(2-chloroisopropyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Bromophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Benzyl butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Carbazole	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Chloroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Chloro-3-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2-Chloronaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2-Chlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Chlorophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Chrysene	2300	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Dibenz[a,h]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Dibenzofuran	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Di-n-butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
3,3'-Dichlorobenzidine	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,4-Dichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Diethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,4-Dimethylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL

MARTEL NO. 91290 000001 FSS-1

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 12:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Dimethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4,6-Dinitro-2-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,4-Dinitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,4-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,6-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Di-n-octyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Bis-(2-ethylhexyl)-phthalate	1200	ug/kg	EPA 8270C	500	B	12/31/2002 16:24 JKL
Fluoranthene	2200	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Fluorene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Hexachlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Hexachlorocyclopentadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Hexachloroethane	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Indeno-(1,2,3-cd)-pyrene	1200	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Isophorone	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2-Methylnaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Naphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
3-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Nitrobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
4-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
N-Nitrosodiphenylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
N-Nitroso-di-N-propylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Pentachlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Phenanthrene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Phenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Pyrene	3100	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,4,5-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
2,4,6-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
N-Nitrosodimethylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
Hexachlorobutadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 16:24 JKL
						/ /
Surrogate Spike						/ /
						/ /
2,4,6-Tribromophenol	108	%	EPA 8270C			12/31/2002 16:24 JKL
2-Fluorobiphenyl	100	%	EPA 8270C			12/31/2002 16:24 JKL
2-Fluorophenol	115	%	EPA 8270C			12/31/2002 16:24 JKL
Nitrobenzene-d5	99	%	EPA 8270C			12/31/2002 16:24 JKL
Phenol-d6	114	%	EPA 8270C			12/31/2002 16:24 JKL
Terphenyl-d14	110	%	EPA 8270C			12/31/2002 16:24 JKL

MARTEL NO. 91290 000001 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
						/ /
Organochlorine Pesticides and PCB's			EPA 8081A			01/01/2003 06:50 TEH
						/ /
Aldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
a-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
b-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
g-BHC (Lindane)	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
d-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Chlordane	ND	ug/kg	EPA 8081A	50		01/01/2003 06:50 TEH
4,4'-DDD	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
4,4'-DDE	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
4,4'-DDT	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Dieldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Endosulfan I	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Endosulfan II	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Endosulfan Sulfate	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Endrin	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Endrin Aldehyde	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Heptachlor	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Heptachlor Epoxide	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Methoxychlor	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Endrin Ketone	ND	ug/kg	EPA 8081A	10		01/01/2003 06:50 TEH
Toxaphene	ND	ug/kg	EPA 8081A	50		01/01/2003 06:50 TEH
						/ /
Surrogate Spike						/ /
						/ /
2,4,5,6-Tetrachlorometaxylene	80	%	EPA 8081A			01/01/2003 06:50 TEH
Decachlorobiphenyl	110	%	EPA 8081A			01/01/2003 06:50 TEH
						/ /
PCB's as Aroclors by Capillary GC	<0.06	mg/kg	EPA 8082	0.06		01/02/2003 14:07 SAK
						/ /
						/ /
Solids (Total)	85	%	EPA 160.3			12/23/2002 13:10 JS

MARTEL NO. 91290 000002 FSS-6 | CLIENT SAMPLE IDENTIFICATION | Sample Date/Time 12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Base/Neutral/Acid Extractables			EPA 8270C			12/31/2002 17:04 JKL
						/ /
Acenaphthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Acenaphthylene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Benzo[a]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL

MARTEL NO. 91290 000002 FSS-6

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Benzo[b]fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Benzo[k]fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Benzo[ghi]perylene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Benzo[a]pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Bis-(2-chloroethoxy)methane	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Bis-(2-chloroethyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Bis(2-chloroisopropyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Bromophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Benzyl butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Carbazole	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Chloroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Chloro-3-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2-Chloronaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2-Chlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Chlorophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Chrysene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Dibenz[a,h]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Dibenzofuran	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Di-n-butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
3,3'-Dichlorobenzidine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,4-Dichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Diethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,4-Dimethylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Dimethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4,6-Dinitro-2-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,4-Dinitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,4-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,6-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Di-n-octyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Bis-(2-ethylhexyl)-phthalate	1400	ug/kg	EPA 8270C	500	B	12/31/2002 17:04 JKL
Fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Fluorene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Hexachlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Hexachlorocyclopentadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Hexachloroethane	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Indeno-(1,2,3-cd)-pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Isophorone	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2-Methylnaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Naphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL

MARTEL NO. 91290 000002 FSS-6

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
2-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
3-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Nitrobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
4-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
N-Nitrosodiphenylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
N-Nitroso-di-N-propylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Pentachlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Phenanthrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Phenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,4,5-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
2,4,6-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
N-Nitrosodimethylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Hexachlorobutadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:04 JKL
Surrogate Spike						/ /
						/ /
						/ /
2,4,6-Tribromophenol	97	%	EPA 8270C			12/31/2002 17:04 JKL
2-Fluorobiphenyl	101	%	EPA 8270C			12/31/2002 17:04 JKL
2-Fluorophenol	110	%	EPA 8270C			12/31/2002 17:04 JKL
Nitrobenzene-d5	98	%	EPA 8270C			12/31/2002 17:04 JKL
Phenol-d6	115	%	EPA 8270C			12/31/2002 17:04 JKL
Terphenyl-d14	126	%	EPA 8270C			12/31/2002 17:04 JKL
Organochlorine Pesticides and PCB's			EPA 8081A			/ / 01/01/2003 08:09 TEH
						/ /
Aldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
a-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
b-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
g-BHC (Lindane)	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
d-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Chlordane	ND	ug/kg	EPA 8081A	50		01/01/2003 08:09 TEH
4,4'-DDD	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
4,4'-DDE	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
4,4'-DDT	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Dieldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Endosulfan I	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Endosulfan II	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Endosulfan Sulfate	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Endrin	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Endrin Aldehyde	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH

MARTEL NO.		CLIENT SAMPLE IDENTIFICATION	Sample Date/Time
91290	000002	FSS-6	12/18/2002 09:57

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Heptachlor	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Heptachlor Epoxide	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Methoxychlor	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Endrin Ketone	ND	ug/kg	EPA 8081A	10		01/01/2003 08:09 TEH
Toxaphene	ND	ug/kg	EPA 8081A	50		01/01/2003 08:09 TEH
						/ /
Surrogate Spike						/ /
						/ /
2,4,5,6-Tetrachlorometaxylene	79	%	EPA 8081A			01/01/2003 08:09 TEH
Decachlorobiphenyl	108	%	EPA 8081A			01/01/2003 08:09 TEH
						/ /
PCB's as Aroclors by Capillary GC	<0.06	mg/kg	EPA 8082	0.06		01/02/2003 14:07 SAK
						/ /
						/ /
Solids (Total)	78	%	EPA 160.3			12/23/2002 13:10 JS

MARTEL NO.		CLIENT SAMPLE IDENTIFICATION	Sample Date/Time
91290	000003	FS-3	12/18/2002 11:40

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Base/Neutral/Acid Extractables			EPA 8270C			12/31/2002 17:44 JKL
						/ /
Acenaphthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Acenaphthylene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Benzo[a]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Benzo[b]fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Benzo[k]fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Benzo[ghi]perylene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Benzo[a]pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Bis-(2-chloroethoxy)methane	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Bis-(2-chloroethyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Bis(2-chloroisopropyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Bromophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Benzyl butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Carbazole	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Chloroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Chloro-3-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2-Chloronaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2-Chlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Chlorophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Chrysene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Dibenz[a,h]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Dibenzofuran	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL

MARTEL NO. 91290 000003 FS-3

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:40

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Di-n-butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
3,3'-Dichlorobenzidine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,4-Dichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Diethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,4-Dimethylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Dimethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4,6-Dinitro-2-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,4-Dinitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,4-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,6-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Di-n-octyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Bis-(2-ethylhexyl)-phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Fluorene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Hexachlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Hexachlorocyclopentadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Hexachloroethane	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Indeno-(1,2,3-cd)-pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Isophorone	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2-Methylnaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Naphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
3-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Nitrobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
4-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
N-Nitrosodiphenylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
N-Nitroso-di-N-propylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Pentachlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Phenanthrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Phenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,4,5-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
2,4,6-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
N-Nitrosodimethylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL
Hexachlorobutadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 17:44 JKL

/ /

MARTEL NO. 91290 000003

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Surrogate Spike						/ /
						/ /
2,4,6-Tribromophenol	100	%	EPA 8270C			12/31/2002 17:44 JKL
2-Fluorobiphenyl	96	%	EPA 8270C			12/31/2002 17:44 JKL
2-Fluorophenol	106	%	EPA 8270C			12/31/2002 17:44 JKL
Nitrobenzene-d5	95	%	EPA 8270C			12/31/2002 17:44 JKL
Phenol-d6	107	%	EPA 8270C			12/31/2002 17:44 JKL
Terphenyl-d14	108	%	EPA 8270C			12/31/2002 17:44 JKL
						/ /
Organochlorine Pesticides and PCB's			EPA 8081A			01/01/2003 08:49 TEH
						/ /
Aldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
a-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
b-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
g-BHC (Lindane)	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
d-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Chlordane	ND	ug/kg	EPA 8081A	50		01/01/2003 08:49 TEH
4,4'-DDD	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
4,4'-DDE	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
4,4'-DDT	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Dieldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Endosulfan I	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Endosulfan II	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Endosulfan Sulfate	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Endrin	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Endrin Aldehyde	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Heptachlor	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Heptachlor Epoxide	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Methoxychlor	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Endrin Ketone	ND	ug/kg	EPA 8081A	10		01/01/2003 08:49 TEH
Toxaphene	ND	ug/kg	EPA 8081A	50		01/01/2003 08:49 TEH
						/ /
Surrogate Spike						/ /
						/ /
2,4,5,6-Tetrachlorometaxylene	67	%	EPA 8081A			01/01/2003 08:49 TEH
Decachlorobiphenyl	102	%	EPA 8081A			01/01/2003 08:49 TEH
						/ /
PCB's as Aroclors by Capillary GC	<0.06	mg/kg	EPA 8082	0.06		01/02/2003 14:07 SAK
						/ /
						/ /
Solids (Total)	84	%	EPA 160.3			12/23/2002 13:10 JS
Antimony	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 13:49 LB
Arsenic	5.0	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Beryllium	1.3	mg/kg	EPA 6020	0.05		01/29/2003 13:49 LB

MARTEL NO. 91290 000003 FS-3

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:40

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Cadmium	0.10	mg/kg	EPA 6020	0.05		01/29/2003 13:49 LB
Chromium	26	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Copper	21	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Lead	13	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Manganese	160	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Mercury	0.27	mg/kg	EPA 7470A	0.1		12/31/2002 11:25 LB
Nickel	24	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Selenium	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 13:49 LB
Silver	0.40	mg/kg	EPA 6020	0.1		01/29/2003 13:49 LB
Thallium	0.22	mg/kg	EPA 6020	0.2		01/29/2003 13:49 LB
Zinc	54	mg/kg	EPA 6020	0.5		01/29/2003 13:49 LB

MARTEL NO. 91290 000004 FS-7

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Base/Neutral/Acid Extractables			EPA 8270C			12/31/2002 18:24 JKL
						/ /
Acenaphthene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Acenaphthylene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Benzo[a]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Benzo[b]fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Benzo[k]fluoranthene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Benzo[ghi]perylene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Benzo[a]pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Bis-(2-chloroethoxy)methane	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Bis-(2-chloroethyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Bis(2-chloroisopropyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Bromophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Benzyl butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Carbazole	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Chloroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Chloro-3-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2-Chloronaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2-Chlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Chlorophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Chrysene	830	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Dibenz[a,h]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Dibenzofuran	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Di-n-butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL

MARTEL NO. 91290 000004 FS-7

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
3,3'-Dichlorobenzidine	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,4-Dichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Diethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,4-Dimethylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Dimethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4,6-Dinitro-2-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,4-Dinitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,4-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,6-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Di-n-octyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Bis-(2-ethylhexyl)-phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Fluoranthene	1400	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Fluorene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Hexachlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Hexachlorocyclopentadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Hexachloroethane	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Indeno-(1,2,3-cd)-pyrene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Isophorone	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2-Methylnaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Naphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
3-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Nitrobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
4-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
N-Nitrosodiphenylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
N-Nitroso-di-N-propylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Pentachlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Phenanthrene	1600	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Phenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Pyrene	1700	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,4,5-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
2,4,6-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
N-Nitrosodimethylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
Hexachlorobutadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 18:24 JKL
						/ /
Surrogate Spike						/ /
						/ /
2,4,6-Tribromophenol	95	%	EPA 8270C			12/31/2002 18:24 JKL
2-Fluorobiphenyl	98	%	EPA 8270C			12/31/2002 18:24 JKL

MARTEL NO. 91290 000004 FS-7

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:00

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
2-Fluorophenol	100	%	EPA 8270C			12/31/2002 18:24 JKL
Nitrobenzene-d5	98	%	EPA 8270C			12/31/2002 18:24 JKL
Phenol-d6	109	%	EPA 8270C			12/31/2002 18:24 JKL
Terphenyl-d14	123	%	EPA 8270C			12/31/2002 18:24 JKL
						/ /
Organochlorine Pesticides and PCB's			EPA 8081A			01/01/2003 09:29 TEH
						/ /
Aldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
a-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
b-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
g-BHC (Lindane)	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
d-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Chlordane	ND	ug/kg	EPA 8081A	50		01/01/2003 09:29 TEH
4,4'-DDD	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
4,4'-DDE	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
4,4'-DDT	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Dieldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Endosulfan I	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Endosulfan II	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Endosulfan Sulfate	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Endrin	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Endrin Aldehyde	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Heptachlor	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Heptachlor Epoxide	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Methoxychlor	65	ug/kg	EPA 8081A	10	P	01/01/2003 09:29 TEH
Endrin Ketone	ND	ug/kg	EPA 8081A	10		01/01/2003 09:29 TEH
Toxaphene	ND	ug/kg	EPA 8081A	50		01/01/2003 09:29 TEH
						/ /
Surrogate Spike						/ /
						/ /
2,4,5,6-Tetrachlorometaxylene	80	%	EPA 8081A			01/01/2003 09:29 TEH
Decachlorobiphenyl	97	%	EPA 8081A			01/01/2003 09:29 TEH
						/ /
PCB's as Aroclors by Capillary GC	<0.07	mg/kg	EPA 8082	0.07		01/02/2003 14:07 SAK
						/ /
						/ /
Solids (Total)	76	%	EPA 160.3			12/23/2002 13:10 JS
Antimony	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 13:57 LB
Arsenic	13	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB
Beryllium	0.82	mg/kg	EPA 6020	0.05		01/29/2003 13:57 LB
Cadmium	0.96	mg/kg	EPA 6020	0.05		01/29/2003 13:57 LB
Chromium	13	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB
Copper	41	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB
Lead	170	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB

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Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Manganese	280	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB
Mercury	0.62	mg/kg	EPA 7470A	0.1		12/31/2002 11:25 LB
Nickel	9.6	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB
Selenium	0.77	mg/kg	EPA 6020	0.5		01/29/2003 13:57 LB
Silver	<0.1	mg/kg	EPA 6020	0.1		01/29/2003 13:57 LB
Thallium	0.29	mg/kg	EPA 6020	0.2		01/29/2003 13:57 LB
Zinc	250	mg/kg	EPA 6020	0.5		01/29/2003 13:57 LB

MARTEL NO. 91290 000005 FS-8 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time 12/18/2002 13:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Base/Neutral/Acid Extractables			EPA 8270C			12/31/2002 19:04 JKL
						/ /
Acenaphthene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Acenaphthylene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Benzo[a]anthracene	600	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Benzo[b]fluoranthene	1000	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Benzo[k]fluoranthene	1100	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Benzo[ghi]perylene	1000	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Benzo[a]pyrene	1000	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Bis-(2-chloroethoxy)methane	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Bis-(2-chloroethyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Bis(2-chloroisopropyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Bromophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Benzyl butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Carbazole	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Chloroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Chloro-3-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2-Chloronaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2-Chlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Chlorophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Chrysene	1800	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Dibenz[a,h]anthracene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Dibenzofuran	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Di-n-butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
3,3'-Dichlorobenzidine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,4-Dichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Diethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,4-Dimethylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL

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CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Dimethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4,6-Dinitro-2-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,4-Dinitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,4-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,6-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Di-n-octyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Bis-(2-ethylhexyl)-phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Fluoranthene	3200	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Fluorene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Hexachlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Hexachlorocyclopentadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Hexachloroethane	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Indeno-(1,2,3-cd)-pyrene	790	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Isophorone	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2-Methylnaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Naphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
3-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Nitrobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
4-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
N-Nitrosodiphenylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
N-Nitroso-di-N-propylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Pentachlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Phenanthrene	3200	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Phenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Pyrene	3400	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,4,5-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
2,4,6-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
N-Nitrosodimethylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
Hexachlorobutadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:04 JKL
						/ /
Surrogate Spike						/ /
						/ /
2,4,6-Tribromophenol	106	%	EPA 8270C			12/31/2002 19:04 JKL
2-Fluorobiphenyl	94	%	EPA 8270C			12/31/2002 19:04 JKL
2-Fluorophenol	106	%	EPA 8270C			12/31/2002 19:04 JKL
Nitrobenzene-d5	97	%	EPA 8270C			12/31/2002 19:04 JKL
Phenol-d6	109	%	EPA 8270C			12/31/2002 19:04 JKL
Terphenyl-d14	108	%	EPA 8270C			12/31/2002 19:04 JKL

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CLIENT SAMPLE IDENTIFICATION

Sample Date/Time / /

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Organochlorine Pesticides and PCB's			EPA 8081A			/ / 01/01/2003 10:09 TEH
Aldrin	ND	ug/kg	EPA 8081A	10		/ / 01/01/2003 10:09 TEH
a-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
b-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
g-BHC (Lindane)	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
d-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Chlordane	ND	ug/kg	EPA 8081A	50		01/01/2003 10:09 TEH
4,4'-DDD	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
4,4'-DDE	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
4,4'-DDT	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Dieldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Endosulfan I	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Endosulfan II	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Endosulfan Sulfate	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Endrin	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Endrin Aldehyde	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Heptachlor	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Heptachlor Epoxide	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Methoxychlor	74	ug/kg	EPA 8081A	10	P	01/01/2003 10:09 TEH
Endrin Ketone	ND	ug/kg	EPA 8081A	10		01/01/2003 10:09 TEH
Toxaphene	ND	ug/kg	EPA 8081A	50		01/01/2003 10:09 TEH
Surrogate Spike						/ /
2,4,5,6-Tetrachlorometaxylene	75	%	EPA 8081A			/ / 01/01/2003 10:09 TEH
Decachlorobiphenyl	106	%	EPA 8081A			01/01/2003 10:09 TEH
PCB's as Aroclors by Capillary GC	<0.07	mg/kg	EPA 8082	0.07		/ / 01/02/2003 14:07 SAK
Solids (Total)	76	%	EPA 160.3			/ / 12/23/2002 13:10 JS
Antimony	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 14:21 LB
Arsenic	10	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Beryllium	0.98	mg/kg	EPA 6020	0.05		01/29/2003 14:21 LB
Cadmium	0.59	mg/kg	EPA 6020	0.05		01/29/2003 14:21 LB
Chromium	20	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Copper	37	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Lead	126	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Manganese	550	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Mercury	0.41	mg/kg	EPA 7470A	0.1		12/31/2002 11:25 LB
Nickel	9.5	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Selenium	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 14:21 LB

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Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Silver	0.24	mg/kg	EPA 6020	0.1		01/29/2003 14:21 LB
Thallium	<0.2	mg/kg	EPA 6020	0.2		01/29/2003 14:21 LB
Zinc	220	mg/kg	EPA 6020	0.5		01/29/2003 14:21 LB

MARTEL NO. 91290 000006 FSS-4 — CLIENT SAMPLE IDENTIFICATION — Sample Date/Time 12/18/2002 11:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Base/Neutral/Acid Extractables			EPA 8270C			12/31/2002 19:44 JKL
						/ /
Acenaphthene	6400	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Acenaphthylene	21000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Anthracene	31000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Benzo[a]anthracene	70000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Benzo[b]fluoranthene	41000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Benzo[k]fluoranthene	51000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Benzo[ghi]perylene	81000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Benzo[a]pyrene	120000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Bis-(2-chloroethoxy)methane	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Bis-(2-chloroethyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Bis(2-chloroisopropyl)ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Bromophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Benzyl butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Carbazole	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Chloroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Chloro-3-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2-Chloronaphthalene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2-Chlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Chlorophenyl phenyl ether	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Chrysene	78000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Dibenz[a,h]anthracene	8800	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Dibenzofuran	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Di-n-butyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
1,2-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
1,3-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
1,4-Dichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
3,3'-Dichlorobenzidine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2,4-Dichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Diethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2,4-Dimethylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Dimethyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4,6-Dinitro-2-methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2,4-Dinitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2,4-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL

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CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
2,6-Dinitrotoluene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Di-n-octyl phthalate	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Bis-(2-ethylhexyl)-phthalate	1000	ug/kg	EPA 8270C	500	B	12/31/2002 19:44 JKL
Fluoranthene	105000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Fluorene	14000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Hexachlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Hexachlorocyclopentadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Hexachloroethane	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Indeno-(1,2,3-cd)-pyrene	44000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Isophorone	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2-Methylnaphthalene	17000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
2-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Methylphenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Naphthalene	52000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
2-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
3-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Nitroaniline	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Nitrobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
4-Nitrophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
N-Nitrosodiphenylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
N-Nitroso-di-N-propylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Pentachlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Phenanthrene	180000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
Phenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Pyrene	260000	ug/kg	EPA 8270C	5000		01/02/2003 9:50 JKL
1,2,4-Trichlorobenzene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2,4,5-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
2,4,6-Trichlorophenol	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
N-Nitrosodimethylamine	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
Hexachlorobutadiene	ND	ug/kg	EPA 8270C	500		12/31/2002 19:44 JKL
						/ /
Surrogate Spike						/ /
						/ /
2,4,6-Tribromophenol	91	%	EPA 8270C			12/31/2002 19:44 JKL
2-Fluorobiphenyl	86	%	EPA 8270C			12/31/2002 19:44 JKL
2-Fluorophenol	102	%	EPA 8270C			12/31/2002 19:44 JKL
Nitrobenzene-d5	86	%	EPA 8270C			12/31/2002 19:44 JKL
Phenol-d6	101	%	EPA 8270C			12/31/2002 19:44 JKL
Terphenyl-d14	103	%	EPA 8270C			12/31/2002 19:44 JKL
						/ /
Organochlorine Pesticides and PCB's			EPA 8081A			01/01/2003 10:49 TEH
						/ /
Aldrin	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 T

MARTEL NO. 91290 000006 FSS-4

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:10

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
a-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
b-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
g-BHC (Lindane)	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
d-BHC	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Chlordane	ND	ug/kg	EPA 8081A	50		01/01/2003 10:49 TEH
4,4'-DDD	67	ug/kg	EPA 8081A	10	P	01/01/2003 10:49 TEH
4,4'-DDE	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
4,4'-DDT	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Dieldrin	15	ug/kg	EPA 8081A	10	P	01/01/2003 10:49 TEH
Endosulfan I	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Endosulfan II	34	ug/kg	EPA 8081A	10	P	01/01/2003 10:49 TEH
Endosulfan Sulfate	11	ug/kg	EPA 8081A	10	P	01/01/2003 10:49 TEH
Endrin	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Endrin Aldehyde	17	ug/kg	EPA 8081A	10	P	01/01/2003 10:49 TEH
Heptachlor	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Heptachlor Epoxide	17	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Methoxychlor	590	ug/kg	EPA 8081A	10	P	01/01/2003 10:49 TEH
Endrin Ketone	ND	ug/kg	EPA 8081A	10		01/01/2003 10:49 TEH
Toxaphene	ND	ug/kg	EPA 8081A	50		01/01/2003 10:49 TEH
						/ /
Surrogate Spike						/ /
						/ /
2,4,5,6-Tetrachlorometaxylene	62	%	EPA 8081A			01/01/2003 10:49 TEH
Decachlorobiphenyl	130	%	EPA 8081A		P	01/01/2003 10:49 TEH
						/ /
PCB's as Aroclors by Capillary GC	<0.06	mg/kg	EPA 8082	0.06		01/02/2003 14:07 SAK
						/ /
						/ /
Solids (Total)	78	%	EPA 160.3			12/23/2002 13:10 JS
Antimony	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 14:25 LB
Arsenic	14	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Beryllium	1.2	mg/kg	EPA 6020	0.05		01/29/2003 14:25 LB
Cadmium	0.13	mg/kg	EPA 6020	0.05		01/29/2003 14:25 LB
Chromium	20	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Copper	23	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Lead	110	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Manganese	1000	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Mercury	1.1	mg/kg	EPA 7470A	0.1		12/31/2002 11:25 LB
Nickel	8.8	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Selenium	0.60	mg/kg	EPA 6020	0.5		01/29/2003 14:25 LB
Silver	0.17	mg/kg	EPA 6020	0.1		01/29/2003 14:25 LB
Thallium	<0.2	mg/kg	EPA 6020	0.2		01/29/2003 14:25 LB
Zinc	73	mg/kg	EPA 6020	0.5		01/29/2003 14:25 LB

MARTEL NO. 91290 000007 FS-4

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 11:04

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Solids (Total)	86	%	EPA 160.3			12/23/2002 13:10 JS
Antimony	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 14:30 LB
Arsenic	11	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Beryllium	<0.05	mg/kg	EPA 6020	0.05		01/29/2003 14:30 LB
Cadmium	0.40	mg/kg	EPA 6020	0.05		01/29/2003 14:30 LB
Chromium	11	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Copper	39	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Lead	190	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Manganese	300	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Mercury	1.5	mg/kg	EPA 7470A	0.1		12/31/2002 11:25 LB
Nickel	<0.2	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Selenium	1.9	mg/kg	EPA 6020	0.5		01/29/2003 14:30 LB
Silver	<0.1	mg/kg	EPA 6020	0.1		01/29/2003 14:30 LB
Thallium	<0.2	mg/kg	EPA 6020	0.2		01/29/2003 14:30 LB
Zinc	190	mg/kg	EPA 6020	0.5		01/29/2003 14:30 LB

MARTEL NO. 91290 000008 FSS-7

CLIENT SAMPLE IDENTIFICATION

Sample Date/Time 12/18/2002 13:05

Compound	Test Value	Test Unit	Method	Detection Limit	Flag	Analysis Date/Time/Initial
Solids (Total)	78	%	EPA 160.3			12/23/2002 13:10 JS
Antimony	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 14:34 LB
Arsenic	10	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Beryllium	1.2	mg/kg	EPA 6020	0.05		01/29/2003 14:34 LB
Cadmium	0.96	mg/kg	EPA 6020	0.05		01/29/2003 14:34 LB
Chromium	18	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Copper	65	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Lead	86	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Manganese	1500	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Mercury	0.71	mg/kg	EPA 7470A	0.1		12/31/2002 11:25 LB
Nickel	10	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Selenium	<0.5	mg/kg	EPA 6020	0.5		01/29/2003 14:34 LB
Silver	<0.1	mg/kg	EPA 6020	0.1		01/29/2003 14:34 LB
Thallium	<0.2	mg/kg	EPA 6020	0.2		01/29/2003 14:34 LB
Zinc	270	mg/kg	EPA 6020	0.5		01/29/2003 14:34 LB

Martel Laboratories *JDS* **Inc.**

1025 Cromwell Bridge Road - Baltimore, Maryland 21286
PH 410-825-7790 FAX 410-821-1054 EMAIL: martel @ martelabs.com

All Procedures used are in accordance with the following methods:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, U.S. EPA Washington D.C., Third Edition, December 1996. Martel is not responsible for sample collection or transportation to the laboratory.

QC _____ *Project Manager* _____
Vincent Kuyawa

Date 1/31/3 *Total Pages* 32 *Date* 1/31/03

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 1

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91290 1

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123037.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 002381-21-7	Pyrene, 1-methyl-	15.97	3800	JN
2. 000238-84-6	11H-Benzo[a]fluorene	16.09	2300	JN
3. 000243-17-4	11H-Benzo[b]fluorene	16.43	2400	JN

8500

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 6

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91290 2

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123038.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 072401-52-6	1-Naphthalenepropanol, .alpha.-	15.95	1300	JN

1300

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FS 3

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91290 3

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123039.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FS 7

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91290 4

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123040.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FS 8

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91290 5

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123041.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000486-25-9	9H-Fluoren-9-one	12.74	590	JN
2. 000949-41-7	1H-Cyclopropa[l]phenanthrene,1	13.74	650	JN
3. 000832-69-9	Phenanthrene, 1-methyl-	13.79	790	JN
4. 000084-65-1	9,10-Anthracenedione	14.26	710	JN

2740

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FSS 4

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 91290 6

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123042.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 025013-15-4	Benzene, ethenylmethyl-	7.02	9500	JN
2. 000581-40-8	Naphthalene, 2,3-dimethyl-	10.66	8200	JN
3. 000112-95-8	Eicosane	11.51	11000	JN
4. 000198-55-0	Perylene	21.16	15000	JN
5. 000214-17-5	Benzo[b]chrysene	24.96	9000	JN

52,700

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BLK_s

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Blank

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123035.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BLK_s

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Blank

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123035.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
3855-82-1	N-Nitrosodimethylamine	500	U
111-44-4	bis(2-Chloroethyl)ether	500	U
108-95-2	Phenol	500	U
95-57-8	2-Chlorophenol	500	U
541-73-1	1,3-Dichlorobenzene	500	U
106-46-7	1,4-Dichlorobenzene	500	U
95-50-1	1,2-Dichlorobenzene	500	U
95-50-1	Benzyl alcohol	500	U
108-60-1	bis(2-chloroisopropyl)ether	500	U
67-72-1	2-Methylphenol	500	U
67-72-1	Hexachloroethane	500	U
621-64-7	N-Nitroso-di-n-propylamine	500	U
67-72-1	4-Methylphenol	500	U
98-95-3	Nitrobenzene	500	U
78-59-1	Isophorone	500	U
88-75-5	2-Nitrophenol	500	U
105-67-9	2,4-Dimethylphenol	500	U
111-91-1	bis(2-Chloroethoxy)methane	500	U
120-83-2	2,4-Dichlorophenol	500	U
120-82-1	1,2,4-Trichlorobenzene	500	U
91-20-3	Naphthalene	500	U
	4-Chloroaniline	500	U
87-68-3	Hexachlorobutadiene	500	U
59-50-7	4-Chloro-3-methylphenol	500	U
	2-Methylnaphthalene	500	U
77-47-4	Hexachlorocyclopentadiene	500	U
88-06-2	2,4,6-Trichlorophenol	500	U
67-72-1	2,4,5-Trichlorophenol	500	U
91-58-7	2-Chloronaphthalene	500	U
88-06-2	2-Nitroaniline	500	U
208-96-8	Acenaphthylene	500	U
131-11-3	Dimethylphthalate	500	U
606-20-2	2,6-Dinitrotoluene	500	U
	3-Nitroaniline	500	U
83-32-9	Acenaphthene	500	U
51-28-5	2,4-Dinitrophenol	500	U
132-64-9	Dibenzofuran	500	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK_s

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Blank

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123035.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
121-14-2	2,4-Dinitrotoluene	500	U
100-02-7	4-Nitrophenol	500	U
86-73-7	Fluorene	500	U
7005-72-3	4-Chlorophenyl-phenylether	500	U
84-66-2	Diethylphthalate	500	U
	4-Nitroaniline	500	U
534-52-1	4,6-Dinitro-2-methylphenol	500	U
86-30-6	n-Nitrosodiphenylamine	500	U
101-55-3	4-Bromophenyl-phenylether	500	U
118-74-1	Hexachlorobenzene	500	U
87-86-5	Pentachlorophenol	500	U
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
	Carbazole	500	U
84-74-2	Di-n-butylphthalate	500	U
206-44-0	Fluoranthene	500	U
129-00-0	Pyrene	500	U
3855-82-1	Benzidine	500	U
85-68-7	Butylbenzylphthalate	500	U
91-94-1	3,3'-Dichlorobenzidine	500	U
56-55-3	Benzo[a]anthracene	500	U
218-01-9	Chrysene	500	U
117-81-7	bis(2-Ethylhexyl)phthalate	500	U
117-84-0	Di-n-octylphthalate	500	U
205-99-2	Benzo[b]fluoranthene	500	U
207-08-9	Benzo[k]fluoranthene	500	U
50-32-8	Benzo[a]pyrene	500	U
193-39-5	Indeno[1,2,3-cd]pyrene	500	U
53-70-3	Dibenz[a,h]anthracene	500	U
191-24-2	Benzo[g,h,i]perylene	500	U

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LCS

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: LCS

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123036.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
3855-82-1	N-Nitrosodimethylamine	500	U
111-44-4	bis(2-Chloroethyl)ether	500	U
108-95-2	Phenol	12000	E
95-57-8	2-Chlorophenol	11000	E
541-73-1	1,3-Dichlorobenzene	500	U
106-46-7	1,4-Dichlorobenzene	4600	E
95-50-1	1,2-Dichlorobenzene	500	U
95-50-1	Benzyl alcohol	500	U
108-60-1	bis(2-chloroisopropyl)ether	500	U
67-72-1	2-Methylphenol	500	U
67-72-1	Hexachloroethane	500	U
621-64-7	N-Nitroso-di-n-propylamine	5600	E
67-72-1	4-Methylphenol	500	U
98-95-3	Nitrobenzene	44	J
78-59-1	Isophorone	500	U
88-75-5	2-Nitrophenol	500	U
105-67-9	2,4-Dimethylphenol	500	U
111-91-1	bis(2-Chloroethoxy)methane	500	U
120-83-2	2,4-Dichlorophenol	94	J
120-82-1	1,2,4-Trichlorobenzene	4700	E
91-20-3	Naphthalene	500	U
	4-Chloroaniline	500	U
87-68-3	Hexachlorobutadiene	500	U
59-50-7	4-Chloro-3-methylphenol	12000	E
	2-Methylnaphthalene	500	U
77-47-4	Hexachlorocyclopentadiene	500	U
88-06-2	2,4,6-Trichlorophenol	500	U
67-72-1	2,4,5-Trichlorophenol	500	U
91-58-7	2-Chloronaphthalene	500	U
88-06-2	2-Nitroaniline	500	U
208-96-8	Acenaphthylene	500	U
131-11-3	Dimethylphthalate	500	U
606-20-2	2,6-Dinitrotoluene	500	U
	3-Nitroaniline	500	U
83-32-9	Acenaphthene	5100	E
51-28-5	2,4-Dinitrophenol	500	U
132-64-9	Dibenzofuran	500	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LCS

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: LCS

Sample wt/vol: 10 (g/ml) G Lab File ID: C2123036.D

Level: (low/med) LOW Date Received: 12/18/2002

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/26/2002

Concentrated Extract Volume: 1 (uL) Date Analyzed: 12/31/2002

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
121-14-2	2,4-Dinitrotoluene	4600	E
100-02-7	4-Nitrophenol	11000	E
86-73-7	Fluorene	500	U
7005-72-3	4-Chlorophenyl-phenylether	500	U
84-66-2	Diethylphthalate	500	U
	4-Nitroaniline	500	U
534-52-1	4,6-Dinitro-2-methylphenol	500	U
86-30-6	n-Nitrosodiphenylamine	500	U
101-55-3	4-Bromophenyl-phenylether	500	U
118-74-1	Hexachlorobenzene	500	U
87-86-5	Pentachlorophenol	11000	E
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
	Carbazole	500	U
84-74-2	Di-n-butylphthalate	45	J
206-44-0	Fluoranthene	500	U
129-00-0	Pyrene	5500	E
3855-82-1	Benzidine	500	U
85-68-7	Butylbenzylphthalate	500	U
91-94-1	3,3'-Dichlorobenzidine	500	U
56-55-3	Benzo[a]anthracene	500	U
218-01-9	Chrysene	500	U
117-81-7	bis(2-Ethylhexyl)phthalate	62	J
117-84-0	Di-n-octylphthalate	500	U
205-99-2	Benzo[b]fluoranthene	500	U
207-08-9	Benzo[k]fluoranthene	500	U
50-32-8	Benzo[a]pyrene	500	U
193-39-5	Indeno[1,2,3-cd]pyrene	500	U
53-70-3	Dibenz[a,h]anthracene	500	U
191-24-2	Benzo[g,h,i]perylene	500	U

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Martel Labs, JDS Contract: MDE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No. FSS 4 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	10000	0.0	12000	120	26 - 121
2-Chlorophenol	10000	0.0	11000	110	25 - 112
1,4-Dichlorobenzene	5000	0.0	4400	88	21 - 104
N-Nitroso-di-n-propylamine	5000	0.0	5600	112	30 - 126
1,2,4-Trichlorobenzene	5000	0.0	4600	92	24 - 126
4-Chloro-3-methylphenol	10000	0.0	12000	120	26 - 121
Acenaphthene	5000	5000	5300	5	5 - 90
2,4-Dinitrotoluene	5000	0.0	3500	70	20 - 89
4-Nitrophenol	10000	0.0	11000	110	11 - 114
Pentachlorophenol	10000	0.0	9400	94	12 - 109
Pyrene	5000	500000	98000	0 *	14 - 142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	10000	11000	110	9	35	26 - 121
2-Chlorophenol	10000	9700	97	13	50	25 - 112
1,4-Dichlorobenzene	5000	3900	78	12	27	21 - 104
N-Nitroso-di-n-propylamine	5000	5100	102	9	38	30 - 126
1,2,4-Trichlorobenzene	5000	4200	84	9	38	24 - 126
4-Chloro-3-methylphenol	10000	11000	110	9	33	26 - 121
Acenaphthene	5000	5500	10	50	50	5 - 90
2,4-Dinitrotoluene	5000	3100	62	12	47	20 - 89
4-Nitrophenol	10000	10000	100	10	50	11 - 114
Pentachlorophenol	10000	8900	89	5	47	12 - 109
Pyrene	5000	53000	0 *	0	36	14 - 142

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 2 out of 22 outside limits

COMMENTS: _____

_____

MARTEL CHAIN OF CUSTODY / SAMPLE INFORMATION FORM

Martel Laboratories JDS Inc. • 1025 Cromwell Bridge Road • Baltimore, MD 21286 • (410) 825-7790 • FAX (410) 821-1054

MARTEL Log # 91290 Client Code MDE

Client Name/Phone/FAX MDE / 410 537-3493 / -3472

Client Address 1800 Washington Blvd., Suite 625

Invoice Address

Sampler A. Zarins / S. Morgan

Project Name/# Frederick Site I

Contract/P.O Number

Sample Turnaround Time Std

	Station No./ Sample ID	Station Location	Matrix	Container Description/ Preservation Status	Potentially Hazardous?	# of Containers	Date	Time	Analyses Required/Comments
1	FSS-1		Soil	2-8oz,	No		12/18/02	1200	SVOCs, Pest/PCB
2	FSS-6		Soil	2-8oz,	No		12/18/02	957	SVOCs, Pest/PCB
3	FS-3		Soil	2-8oz, 1-4oz	No		12/18/02	1140	Metals, SVOCs, Pest/PCB
4	FS-7		Soil	2-8oz,	No		12/18/02	1300	Metals, SVOCs, Pest PCB
	~~FS-8~~								
5	FS-8		Soil	2-8oz,	No		12/18/02	1310	Metals, SVOC, Pest PCB
6	FSS-4		Soil	2-8oz,	No		12/18/02	1110	Metals, SVOCs, Pest, PCB
7	FS-4		Soil	1-4oz,	No		12/18/02	1104	Metals,
8	~~FSS-3~~	FSS-7	Soil	1-4oz	No		12/18/02	1325	Metals
	~~FSS-4~~								

Transferred by:	Received by:	Date 12-20-02	Time 1040	Cooler Receipt Information (LAB USE ONLY)
Transferred by:	Received by:	Date	Time	Sufficient ice? - Yes/No If No, temp.=
Transferred by:	Received by:	Date	Time	Sample containers pres'd? - Yes/No If No, explain Custody Seal present/intact? - Yes/No N/A Initials: BTK Date: 12-20-02

ATTACHMENT B

Boring Logs and Well Completion Diagrams

MDE BORING LOG AND SAMPLE DATA

HOLE No.: MW-1

SURFACE CONDITIONS: Macadam covered parking lot, at corner of East St extension and East Patrick St

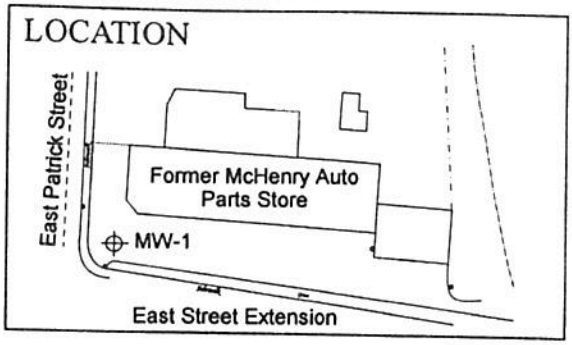
WEATHER: P. cloudy, cold, 30F

PROJECT No.: 65586

PROJECT SITE: Frederick - Site I

GEOLOGIST: Alex Cox

LOCATION



DRILLER Connelly & Associates

DATE START Dec. 19, 2002

DATE END Dec. 21, 2002

Well Permit # FR-94-3419

0	Macadam, concrete
	2 ft - Mixed orange, yellow, tan fill
	4 - 8 Moist rust colored clayey silt grading to olive brown
	6 ft - Strong petroleum odor
	8 - 12 ft Yellow turning brown silty clay with mixed gravels
10	
	12 - 18 ft - Orange brown silty clay, moist.
	17 ft - Layer of free product
	18 - 20 ft - Limestone rock boulder or layer
20	20 - 30 ft - Wet, debris with free product. Use of down hole hammer and copious amounts of free product discharged with air stream makes logging difficult

Flush-mount well cap

1 to 3 ft - cement grout

3 to 26 ft - filter sand

0 to 3 ft - 4-inch PVC riser pipe

3 to 26 4-inch PVC well screen, 0.020 slot

End of boring at 30 ft

MDE BORING LOG AND SAMPLE DATA

HOLE No.: MW-2

SURFACE CONDITIONS: Macadam covered parking lot, adjacent to East St extension

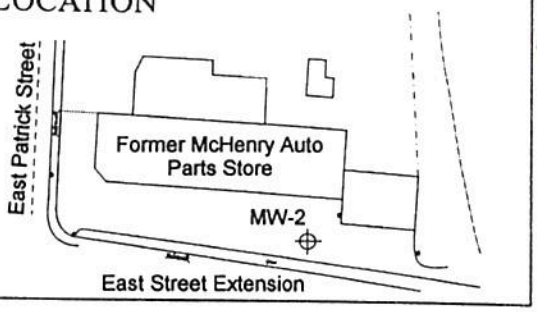
WEATHER: P. cloudy, cold, 30F

PROJECT No.: 65586

PROJECT SITE: Frederick - Site I

GEOLOGIST: Alex Cox

LOCATION



DRILLER Connelly & Associates

DATE START Dec. 20, 2002

DATE END Dec. 23, 2002

Well Permit # FR-94-3418

0 - 4 Black soil, organic silty clay

4 - 14 Dark brown gravelly soil

14 - 15 Lt. brownish clayey soil/silty clay

15 - 26 Organic clayey soil/ silty clay with larger particles (gravel)

Grayish brown silty clay soil, #3 size whitish gravel @ 21 ft

Moist, no free water

25 ft - wet, some free product

26.5 ft - Bedrock (limestone)

End of boring at 26.5 ft

Flush-mount well cap

1 to 3 cement grout

3 to 26.5 filter sand

0 to 5 4-inch PVC riser pipe

5 to 26 4-inch PVC well screen, 0.020 slot

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-1

SURFACE CONDITIONS: Grassy area next to fence

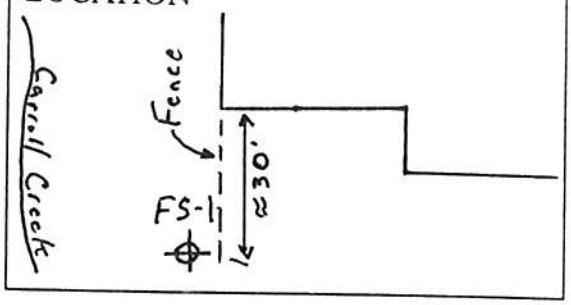
WEATHER: Cloudy, Cold, 30F

PROJECT No.: 65586

PROJECT SITE: Frederick - Site I

GEOLOGIST: A. Zarins

LOCATION



DRILLER Columbia Tech.

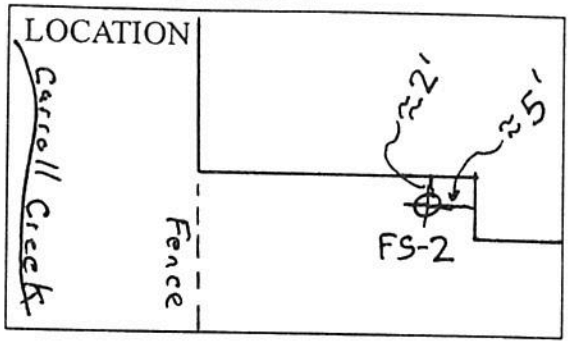
DATE END 12/18/02 1210

DATE START 1150, 12/18/02

0	Grass, top soil	
1	Fill	
2		
3		
4	4-5 Dark green grey silty Clay and fine Sand.	Strong petroleum odor
5	End of boring @ 5'	

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-2
SURFACE CONDITIONS: Parking lot area behind building
WEATHER: Cloudy, cold, 30F
PROJECT No.: 65586
PROJECT SITE: Frederick Site I
GEOLOGIST: A. Zarins



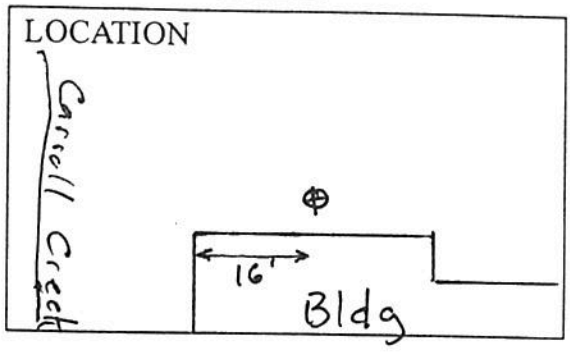
DRILLER Columbia Tech
DATE END 12/18/02 1245
DATE START 12/18/02, 1230

0 Light red brown silty clay, fine sand, gravel, fill.
1
CL
GC
2
3
Silty clay, turning dark grey
4
CL
5 Slight petroleum odor
End boring @ 5'

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-3
SURFACE CONDITIONS: Macadam parking lot
WEATHER: Cloudy, Cold, 30F
PROJECT No.: 65586
PROJECT SITE: Frederick, Site I
GEOLOGIST: A. Zarins

LOCATION



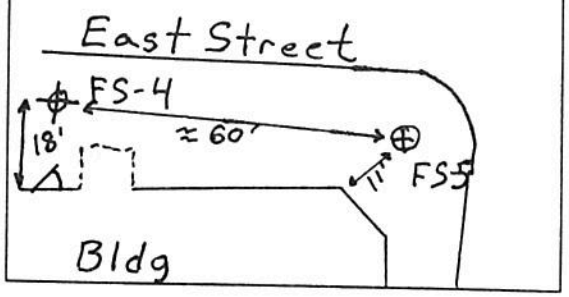
DRILLER Columbia Tech
DATE END 12/18/02 1145
DATE START 12/18/02 1130

0	No log.	Note: No log kept. No odors or unusual materials encountered.
1		
2		
3		
4		
5	Boring Complete @ 5'	

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-4
SURFACE CONDITIONS: Parking lot near East Street and MW-2
WEATHER: Cloudy, cold, 30F
PROJECT No.: 65586
PROJECT SITE: Frederick, Site I
GEOLOGIST: A. Zarins

LOCATION



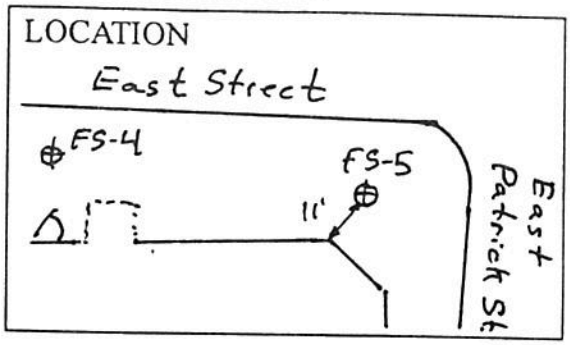
DRILLER Columbia Tech
DATE END 12/18/02 1120
DATE START 12/18/02 1050

0	Macadam, gravel	
1	Brick, gravel, macadam, (fill)	
1	Brick layer (old road?)	
2	Gravel, brick, wood (fill)	
3		
4		
5	Dark brown silty clay	Petroleum odor 4-5'
	End of boring @ 5'	

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-5
SURFACE CONDITIONS: Macadam parking lot
WEATHER: Cloudy, Cold, 32
PROJECT No.: 65586
PROJECT SITE: Frederick - Site I
GEOLOGIST: A. Zarins

LOCATION



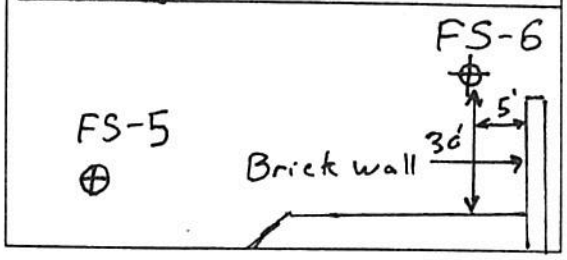
DRILLER Columbia Tech
DATE END 12/18/02 1030
DATE START 12/18/02 1015

0	Macadam, gravel	
1	Brown silty clay, some fine sand, trace rounded gravel, brick, moist (fill)	
2		
3		
4		
5	End of boring @ 5'	

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-6
SURFACE CONDITIONS: Macadam parking lot
WEATHER: Cloudy, Cold, 30F
PROJECT No.: Frederick, Site I
PROJECT SITE: 65586
GEOLOGIST: A. Zarins

LOCATION East Patrick St.



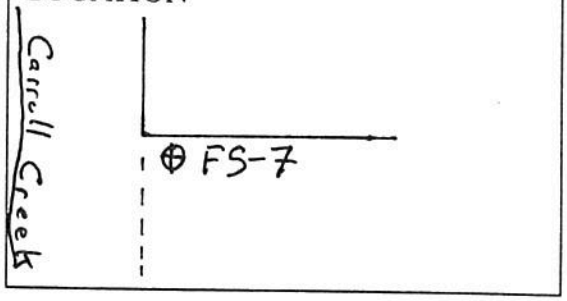
DRILLER Columbia Tech
DATE END 12/18/02 1000
DATE START 12/18/02 940

0	Macadam, gravel	
1	CL Brown silty clay, some fine sand, trace rounded gravel, moist (fill)	
2		
3		
4		4-5' Petroleum odor
5		
6	End of boring @ 6'	

MDE BORING LOG AND SAMPLE DATA

HOLE No.: FS-7
SURFACE CONDITIONS: Macadam parking lot
WEATHER: Cloudy, Cold.
PROJECT No.: 65586
PROJECT SITE: Frederick, Site I
GEOLOGIST: A. Zarins

LOCATION



DRILLER Columbia Tech
DATE END 12/18/02 1315
DATE START 12/18/02 1255

No log.

End of boring @ 5'

Note: Log not recorded. No odors or unusual material encountered.

ATTACHMENT C

Toxicological Analysis

Maryland Department of the Environment
Waste Management Administration
Environmental Restoration and Redevelopment Program

MEMORANDUM

TO: Scott Morgan, Project Manager
Site Assessment/Brownfields

THROUGH: Patti Davis, Section Head
Site Assessment/Brown

FROM: Nicole Allen, Toxicologist
Environmental Restoration and Redevelopment Program

THROUGH: Mark A. Mank, Toxicologist
Environmental Restoration and Redevelopment Program

SUBJECT: Toxicological Evaluation – Parcel I, Frederick, Maryland

DATE: February 28, 2003

The toxicological evaluation for the Frederick Parcel I property located in Frederick, Frederick County, Maryland is attached. The toxicological evaluation assumed the future use of the site to be commercial.

Noncarcinogenic risks estimated for the incidental ingestion of detected surface and subsurface soil contaminants, under a commercial future use scenario, were within MDE and EPA recommended risk levels for all commercial populations. Risks associated with the incidental ingestion of detected carcinogenic surface soil contaminants exceeded MDE recommended risk ranges for the child visitor commercial population. Carcinogenic risk estimates for incidental ingestion of detected surface soil contaminants were within MDE recommended risk ranges for the youth visitor, adult worker and construction worker commercial populations and EPA recommended risk ranges for all commercial populations. Risk estimates for the incidental ingestion of detected carcinogenic subsurface soil contaminants exceeded MDE recommended risk ranges for all commercial populations and EPA recommended risk ranges for the child visitor, youth visitor and adult worker commercial populations. Risks associated with the incidental ingestion of detected carcinogenic subsurface soil contaminants were within EPA recommended levels for the construction worker commercial population. The estimated noncarcinogenic and carcinogenic risk levels from the inhalation of detected and nondetected volatiles and fugitive dust from surface and subsurface soils were within acceptable levels as recommended by EPA and MDE for all commercial populations. Risk estimates for dermal exposure to detected carcinogenic and noncarcinogenic surface soil contaminants were within MDE and EPA recommended levels for all commercial populations. Risk estimates for dermal

exposure to detected noncarcinogenic subsurface soil contaminants were within MDE and EPA recommended levels for all commercial populations. Carcinogenic risk estimates for dermal exposure to detected subsurface soil contaminants exceeded MDE recommended risk ranges for the child visitor, youth visitor and adult worker commercial populations and EPA recommended risk ranges for the child visitor and adult worker commercial populations. Dermal contact carcinogenic risk estimates from exposure to detected subsurface soil contaminants were within MDE recommended risk ranges for the construction worker commercial population and EPA recommended levels for the youth visitor and construction worker commercial populations. The maximum concentrations of lead were below the 400 mg/kg residential soil screening value in both surface and subsurface soil. Based upon the available data, and a projected commercial future land use, no further evaluation of lead contamination in soils on site is warranted.

The estimated noncarcinogenic and carcinogenic risks from ingestion of detected groundwater exceeded MDE and EPA recommended levels for all commercial populations. Noncarcinogenic risk estimates from dermal contact with detected groundwater contaminants exceeded MDE and EPA recommended risk ranges for all commercial populations. Carcinogenic risk estimates from dermal contact with detected groundwater contaminants exceeded MDE recommended risk ranges for all commercial populations and EPA recommended risk ranges for the adult worker and youth visitor commercial populations. Carcinogenic risks from dermal contact with detected contaminants in groundwater were within EPA recommended risk ranges for the child visitor and construction worker commercial populations. Three detected contaminants, benzene, ethylbenzene and toluene, exceeded their respective MCLs. Benzene exceeded the AWQC for the protection of aquatic life (acute or chronic) and protection of human health through fish consumption. Given the magnitude of theses exceedance and proximity to nearby surface water bodies the potential impact to surface water cannot be determined.

No detected contaminant in groundwater exceeded a hazard index (HI) of 1 or a cancer risk of greater than 1×10^{-5} from vapor intrusion of volatiles to indoor air for commercial populations. Vapor intrusion risk estimates for one detected contaminant in soils, mercury, exceeded MDE and EPA recommended noncarcinogenic risk levels. No detected carcinogenic soil contaminants exceeded MDE or EPA recommended risk ranges for vapor intrusion of volatiles to indoor air for commercial populations.

Four detected groundwater contaminants exceeded their corresponding MDE groundwater cleanup standard, however, groundwater, groundwater sampling was limited to VOCs only. Three detected surface soil contaminant exceeded the corresponding MDE non-residential soil cleanup standard and seven detected subsurface soil contaminants exceeded the corresponding MDE non-residential soil cleanup standard.

Please contact me (x3436) if you have any questions.
/MAM
attachment

Youth visitor	Ingestion-groundwater	1.6×10^{-3}	Benzene
Adult worker	Ingestion-groundwater	1.8×10^{-3}	Benzene
Construction worker	Ingestion-groundwater	2.2×10^{-4}	Benzene
Child visitor	Dermal contact-groundwater	7.5×10^{-5}	Benzene
Youth visitor	Dermal contact-groundwater	1.1×10^{-4}	Benzene
Adult worker	Dermal contact-groundwater	1.8×10^{-3}	Benzene
Construction worker	Dermal contact-groundwater	3.5×10^{-5}	Benzene

Note: A vapor risk from intrusion of elemental mercury vapors migrating to indoor air exists at the site. The Hazard Index for vapor intrusion to indoor air for detected noncarcinogenic surface soil contaminates is 29 and 21 for detected subsurface soil contaminates.

Concentrations (RBCs) for tap water. Prior to comparison with each chemical concentration, noncarcinogenic RBCs were multiplied by 0.1, in order to account for any additivity of systemic effects. Carcinogenic RBC values were not adjusted and represent a target risk level of 10^{-6}. Carcinogenic and noncarcinogenic risk levels for all contaminants that exceeded their respective RBC screening level were evaluated quantitatively. The quantitative evaluation was based on expected future use and development scenarios and includes populations typically expected to frequent the site based on this proposed future use.

The future land use at the site was assumed to be commercial; therefore, the commercial exposure scenario was used to evaluate risk at the site. The contaminants identified at the site at concentrations that exceeded residential RBCs were further evaluated with regard to risk to relevant populations under the following scenarios (1, 2, 3, and 7):

Commercial Development:

Soil (Surface and Subsurface) and Groundwater:

Adult Worker: 70 kg body weight, 3280 cm^2 skin surface area (soil), 5670 cm^2 skin surface area (groundwater), 0.05 skin adherence factor, 250 days per year exposure for soil ingestion, 50 mg soil ingested per day, 1 liter drinking (ground) water ingested daily while at work, 1.0 m^3/hour inhalation rate, 8 hour exposure time (inhalation soil and dermal contact groundwater), 25 year exposure duration, 70 year lifetime.

Construction Worker: 70 kg body weight, 3280 cm^2 skin surface area (soil), 5670 cm^2 skin surface area (groundwater), 0.05 skin adherence factor, 250 days per year exposure for soil ingestion, 480 mg soil ingested per day, 3 liter drinking (ground) water ingested per day, 1.5 m^3/hour inhalation rate, 8 hour exposure time (inhalation soil), 4 hour exposure time (dermal contact groundwater), 1 year exposure duration, 70 year lifetime.

Youth Intermittent Visitor (6 - 17 years): 40 kg body weight, 4320 cm^2 skin surface area (soil), 13100 cm^2 skin surface area (groundwater), 0.02 skin adherence factor, 132 days per year exposure for soil ingestion, 100 mg soil ingested per day, 2 liter drinking (ground) water ingested, 0.56 m^3/hour inhalation rate, 4 hour exposure time (soil inhalation), 0.5 hour exposure time (groundwater dermal contact), 12 year exposure duration, 70 year lifetime.

Child Intermittent Visitor (1 - 6 years): 15 kg body weight, 2350 cm^2 skin surface area (soil), 6560 cm^2 skin surface area (groundwater), 0.06 skin adherence factor, 132 days per year exposure for soil ingestion, 200 mg soil ingested per day, 1 liter drinking (ground) water ingested, 0.32 m^3/hour inhalation rate, 4 hour exposure time (soil inhalation), 0.5 hour exposure time (groundwater dermal contact), 6 year exposure duration, 70 year lifetime.

2.0 Human Health Evaluation

Soil samples were analyzed for VOCs, SVOCs, PCBs, selected pesticides, diesel and gasoline range organics (DRO, GRO) and metals. Groundwater sample analysis was limited to VOCs. Chemicals that were detected on site were compared to medium-specific screening levels

2.3 Vapor Intrusion

All volatile and semivolatile contaminants detected in soil and groundwater samples at the site were quantitatively evaluated for vapor intrusion using the Johnson and Ettinger Tier I vapor intrusion model (10).

2.4 MDE Cleanup Standards Screen

All soil and groundwater samples collected on site were compared to the MDE *State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater* Interim Final Guidance, August 2001 (11).

3.0 Conclusion

3.1 Soil

The estimated risks from the incidental ingestion of detected noncarcinogenic surface soil and subsurface soil contaminants were within EPA and MDE recommended levels for all commercial populations (Tables 1 and 3). Risks associated with the incidental ingestion of detected carcinogenic surface soil contaminants exceeded MDE recommended risk ranges for the child visitor commercial population (Table 2). Potential additive effects were the carcinogenic risk drivers for the child visitor population. Carcinogenic risk estimates for the incidental ingestion of detected surface soil contaminates were within MDE recommended risk ranges for the youth visitor, adult worker and construction worker commercial populations and EPA recommended risk ranges for all commercial populations. Risk estimates for the incidental ingestion of detected carcinogenic subsurface soil contaminates exceeded MDE recommended risk ranges for all commercial populations and EPA recommended risk ranges for the child visitor, youth visitor and adult worker commercial populations (Table 4). Benzo(a)pyrene, benzo(a)anthracene, dibenz(a,h)anthracene and indeno-(1,2,3-cd)-pyrene were the carcinogenic risk drivers. Risks associated with the incidental ingestion of detected carcinogenic subsurface soil contaminates were within EPA recommended levels for the construction worker commercial population. The estimated noncarcinogenic and carcinogenic risk levels from the inhalation of detected and nondetected volatiles and fugitive dust from surface and subsurface soils were within acceptable levels as recommended by EPA and MDE (Tables 5 through 8) for all commercial populations. Risk estimates for dermal exposure to detected carcinogenic and noncarcinogenic surface soil contaminants were within MDE and EPA recommended levels for all commercial populations (Tables 9 and 10). Risk estimates for dermal exposure to noncarcinogenic detected subsurface soil contaminants were within MDE and EPA recommended levels for all commercial populations (Table 11). Carcinogenic risk estimates for dermal exposure to detected subsurface soil contaminants exceeded MDE recommended risk range for the child visitor, youth visitor and adult worker commercial populations and EPA recommended risk range for the child visitor and adult worker commercial population (Table 12). Benzo(a)pyrene, benzo(a)anthracene, dibenz(a,h)anthracene and indeno-(1,2,3-cd)-pyrene were the dermal contact carcinogenic risk drivers. Dermal contact carcinogenic risk estimates from exposure to detected subsurface soil contaminates were within MDE recommended risk ranges for the construction worker commercial population and EPA recommended levels for the youth visitor and construction

exceeded a hazard index (HI) of 1 or a cancer risk of greater than 1 x 10^{-5} for commercial populations. One detected contaminate in surface and subsurface soil, mercury, exceeded a Hazard Index of 1 for vapor intrusion to indoor air. No detected soil contaminates exceeded MDE or EPA recommended carcinogenic risk levels for vapor intrusion to indoor air.

3.4 MDE Cleanup Standards Screen

Maximum concentrations of all chemicals analyzed for in soil and groundwater were compared to their corresponding MDE non-residential cleanup standard (Attachment A). Four detected groundwater contaminants exceeded their corresponding MDE groundwater cleanup standard. No nondetected groundwater contaminants exceeded their corresponding MDE groundwater cleanup standard. Three detected surface soil and seven detected subsurface soil contaminants exceeded the recommended MDE non-residential soil cleanup standard.

3.5 Evaluation Assumptions

When determining whether an increased risk to human health exists at this site, it is important to understand that this evaluation was prepared as a first level screening evaluation. Many conservative assumptions are included in this evaluation, which were developed with the understanding that if the estimated risk, using the conservative assumptions, does not exceed EPA's recommended levels, then the risk estimated using more realistic scenarios will not exceed these levels.

Since this evaluation includes many conservative assumptions, a risk that exceeds EPA's recommended level of risk does not necessarily indicate an increased risk to human health. When this situation occurs, it is necessary to consider several points when determining if the risk actually does represent a threat to human health. For example, the quantitative risk estimate in this evaluation assumes people will be exposed to a contaminant at the maximum concentration all throughout the site and for the entire exposure duration. These assumptions do not take into account whether the maximum concentration is anomalous or characteristic of the site, or that biodegradation, dispersion, dilution, or other factors may decrease the contaminant concentration throughout the time of exposure.

This evaluation also assumes that the bioavailability of each contaminant is 100 percent, and that all of the contaminant taken into the body is absorbed across the digestive tract into the body. A chemical is harmful to human health only if it is absorbed into the body. Assuming complete bioavailability does not consider the fact that it is common for a fraction of the chemical taken into the body to be excreted rather than absorbed into the body. The bioavailability of a contaminant is dependent on many factors, such as the state or form of the contaminant and if the actual size of the contaminant particle would permit incidental ingestion. These issues must be considered when evaluating the appropriateness of assuming total bioavailability of a contaminant.

TABLES

Commercial Use - Incidental Ingestion/Surface soil.

For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (mg/kg)	Qualifier	Slope Factor (1/mg/kg/d)	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
				LADD	CR	LADD	CR	LADD	CR	LADD	CR
ARSENIC	13		2E+00	2E-06	3E-06	9E-07	1E-06	2E-06	3E-06	5E-06	8E-06
BENZO[A]PYRENE	1		7E+00	2E-07	1E-06	7E-08	5E-07	2E-07	1E-06	4E-07	3E-06
BENZO[B]FLUORANTHENE	1		7E-01	2E-07	1E-07	7E-08	5E-08	2E-07	1E-07	4E-07	3E-07
dibenz[a,h]anthracene	0.329	U	7E+00	6E-08	4E-07	2E-08	2E-07	5E-08	4E-07	1E-07	1E-06
n-nitroso-di-n-propylamine	0.329	U	7E+00	6E-08	4E-07	2E-08	2E-07	5E-08	4E-07	1E-07	1E-06
n-nitrosodimethylamine	0.329	U	5E+01	6E-08	3E-06	2E-08	1E-06	5E-08	3E-06	1E-07	7E-06
Cancer Risk for Detected Compounds Only:				**Sum =**	**4.8E-06**	**Sum =**	**1.8E-06**	**Sum =**	**4.3E-06**	**Sum =**	**1.1E-05**
Cancer Risk for Nondetected Compounds Only:				**Sum =**	**3.8E-06**	**Sum =**	**1.4E-06**	**Sum =**	**3.3E-06**	**Sum =**	**8.9E-06**
Cancer Risk for Detected and Nondetected Compounds:				**Sum =**	**8.6E-06**	**Sum =**	**3.3E-06**	**Sum =**	**7.6E-06**	**Sum =**	**2.0E-05**

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 4. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Incidental Ingestion/Subsurface soil.
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (mg/kg)	Qualifier	Slope Factor (1/mg/kg/d)	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
				LADD	CR	LADD	CR	LADD	CR	LADD	CR
Arsenic	14		2E+00	2E-06	4E-06	9E-07	1E-06	2E-06	3E-06	6E-06	9E-06
Benzo[a]anthracene	70		7E-01	1E-05	9E-06	5E-06	3E-06	1E-05	8E-06	3E-05	2E-05
Benzo[a]pyrene	120		7E+00	2E-05	2E-04 *	8E-06	6E-05	2E-05	1E-04 *	5E-05	4E-04 *
Benzo[b]fluoranthene	41		7E-01	7E-06	5E-06	3E-06	2E-06	6E-06	5E-06	2E-05	1E-05
Benzo[k]fluoranthene	51		7E-02	9E-06	7E-07	3E-06	2E-07	8E-06	6E-07	2E-05	2E-06
Dibenz[a,h]anthracene	8.8		7E+00	2E-06	1E-05	6E-07	4E-06	1E-06	1E-05	4E-06	3E-05
Indeno-(1,2,3-cd)-pyrene	44		7E-01	8E-06	6E-06	3E-06	2E-06	7E-06	5E-06	2E-05	1E-05
n-nitroso-di-n-propylamine	0.3205	U	7E+00	6E-08	4E-07	2E-08	2E-07	5E-08	3E-07	1E-07	9E-07
n-nitrosodimethylamine	0.3205	U	5E+01	6E-08	3E-06	2E-08	1E-06	5E-08	3E-06	1E-07	7E-06
Cancer Risk for Detected Compounds Only:				Sum =	1.9E-04 *	Sum =	7.2E-05	Sum =	1.7E-04 *	Sum =	4.5E-04 *
Cancer Risk for Nondetected Compounds Only:				Sum =	3.2E-06	Sum =	1.2E-06	Sum =	2.9E-06	Sum =	7.7E-06
Cancer Risk for Detected and Nondetected Compounds:				Sum =	1.9E-04 *	Sum =	7.4E-05	Sum =	1.7E-04 *	Sum =	4.5E-04 *

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 6. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Inhalation of Volatiles and Fugitive Dust (Surface Soil).
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (mg/kg)	Qualifier	Slope Factor (1/mg/kg/d)	PEF/VF	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
					LADD	CR	LADD	CR	LADD	CR	LADD	CR
Particulate Emission:				PEF								
Arsenic	13		2E+01	9.63E+08	4E-10	6E-09	2E-11	3E-10	5E-11	7E-10	4E-11	5E-10
Chromium	26		4E+01	9.63E+08	8E-10	3E-08	5E-11	2E-09	9E-11	4E-09	7E-11	3E-09
Benzo[a]pyrene	1		3E+00	9.63E+08	3E-11	9E-11	2E-12	5E-12	4E-12	1E-11	3E-12	9E-12
n-nitrosodimethylamine	0.329	U	5E+01	9.63E+08	1E-11	5E-10	6E-13	3E-11	1E-12	6E-11	9E-13	5E-11
Volatilization:				VF								
Arsenic	13		2E+01									
Chromium	26		4E+01									
Benzo[a]pyrene	1		3E+00	2.35E+07	1E-09	4E-09	7E-11	2E-10	1E-10	5E-10	1E-10	3E-10
n-nitrosodimethylamine	0.329	U	5E+01									

Particle Cancer Risk Totals for Detected Compounds Only:	Sum =	3.7E-08	Sum =	2.2E-09	Sum =	4.6E-09	Sum =	3.5E-09
Particle Cancer Risk Totals for Nondetected Compounds Only:	Sum =	4.9E-10	Sum =	2.9E-11	Sum =	6.0E-11	Sum =	4.6E-11
Volatile Cancer Risk Totals for Detected Compounds Only:	Sum =	3.7E-09	Sum =	2.2E-10	Sum =	4.6E-10	Sum =	3.5E-10
Volatile Cancer Risk Totals for Nondetected Compounds Only:	Sum =	--	Sum =	--	Sum =	--	Sum =	--
Total Cancer Risk via Inhalation (Detected and nondetected compounds):	Sum =	4.1E-08	Sum =	2.5E-09	Sum =	5.1E-09	Sum =	3.9E-09

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 8. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Inhalation of Volatiles and Fugitive Dust (Subsurface Soil).
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (mg/kg)	Qualifier	Slope Factor (1/mg/kg/d)	PEF/VF	Adult Worker LADD	Adult Worker CR	Construction Worker LADD	Construction Worker CR	Youth Visitor LADD	Youth Visitor CR	Child Visitor LADD	Child Visitor CR
Particulate Emission:				**PEF**								
Arsenic	14		2E+01	9.63E+08	4E-10	6E-09	2E-11	4E-10	5E-11	8E-10	4E-11	6E-10
Benzo[a]pyrene	120		3E+00	9.63E+08	3E-09	1E-08	2E-10	6E-10	4E-10	1E-09	3E-10	1E-09
n-nitrosodimethylamine	0.3205	U	5E+01	9.63E+08	9E-12	5E-10	6E-13	3E-11	1E-12	6E-11	9E-13	4E-11
Volatilization:				**VF**								
Arsenic	14		2E+01									
Benzo[a]pyrene	120		3E+00	2.35E+07	1E-07	4E-07	9E-09	3E-08	2E-08	5E-08	1E-08	4E-08
n-nitrosodimethylamine	0.3205	U	5E+01									
Particle Cancer Risk Totals for Detected Compounds Only:					**Sum =**	**1.7E-08**	**Sum =**	**1.0E-09**	**Sum =**	**2.1E-09**	**Sum =**	**1.6E-09**
Particle Cancer Risk Totals for Nondetected Compounds Only:					**Sum =**	**4.7E-10**	**Sum =**	**2.8E-11**	**Sum =**	**5.9E-11**	**Sum =**	**4.5E-11**
Volatile Cancer Risk Totals for Detected Compounds Only:					**Sum =**	**4.4E-07**	**Sum =**	**2.7E-08**	**Sum =**	**5.5E-08**	**Sum =**	**4.2E-08**
Volatile Cancer Risk Totals for Nondetected Compounds Only:					**Sum =**	**--**	**Sum =**	**--**	**Sum =**	**--**	**Sum =**	**--**
Total Cancer Risk via Inhalation (Detected and nondetected compounds):					**Sum =**	**4.6E-07**	**Sum =**	**2.8E-08**	**Sum =**	**5.7E-08**	**Sum =**	**4.3E-08**

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 10. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Dermal Contact/Surface soil.
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (mg/kg)	Qualifier	Slope Factor (1/mg/kg/d)	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
				LADD	CR	LADD	CR	LADD	CR	LADD	CR
Arsenic	13		2E+00	3E-07	5E-07	1E-08	2E-08	2E-07	3E-07	9E-07	1E-06
Benzo[a]pyrene	1		7E+00	1E-07	8E-07	5E-09	3E-08	6E-08	4E-07	3E-07	2E-06
Benzo[b]fluoranthene	1		7E-01	1E-07	8E-08	5E-09	3E-09	6E-08	4E-08	3E-07	2E-07
dibenz[a,h]anthracene	0.329	U	7E+00	3E-08	3E-07	2E-09	1E-08	2E-08	1E-07	1E-07	8E-07
n-nitroso-di-n-propylamine	0.329	U	7E+00	3E-08	2E-07	1E-09	8E-09	2E-08	1E-07	8E-08	6E-07
n-nitrosodimethylamine	0.329	U									
Cancer Risk for Detected Compounds Only:				**Sum =**	**1.3E-06**	**Sum =**	**6.0E-08**	**Sum =**	**7.6E-07**	**Sum =**	**4.0E-06**
Cancer Risk for Nondetected Compounds Only:				**Sum =**	**4.4E-07**	**Sum =**	**2.0E-08**	**Sum =**	**2.5E-07**	**Sum =**	**1.3E-06**
Cancer Risk for Detected and Nondetected Compounds:				**Sum =**	**1.7E-06**	**Sum =**	**8.0E-08**	**Sum =**	**1.0E-06**	**Sum =**	**5.3E-06**

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 12. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Dermal Contact/Subsurface soil.
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (mg/kg)	Qualifier	Slope Factor (1/mg/kg/d)	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
				LADD	CR	LADD	CR	LADD	CR	LADD	CR
Arsenic	14		2E+00	3E-07	5E-07	2E-08	2E-08	2E-07	3E-07	1E-06	2E-06
Benzo[a]anthracene	70		7E-01	7E-06	5E-06	3E-07	2E-07	4E-06	3E-06	2E-05	2E-05
Benzo[a]pyrene	120		7E+00	1E-05	9E-05	6E-07	4E-06	7E-06	5E-05	4E-05	3E-04 *
Benzo[b]fluoranthene	41		7E-01	4E-06	3E-06	2E-07	1E-07	2E-06	2E-06	1E-05	9E-06
Benzo[k]fluoranthene	51		7E-02	5E-06	4E-07	2E-07	2E-08	3E-06	2E-07	2E-05	1E-06
Dibenz[a,h]anthracene	8.8		7E+00	9E-07	7E-06	4E-08	3E-07	5E-07	4E-06	3E-06	2E-05
Indeno-(1,2,3-cd)-pyrene	44		7E-01	5E-06	3E-06	2E-07	2E-07	3E-06	2E-06	1E-05	1E-05
n-nitroso-di-n-propylamine	0.3205	U	7E+00	3E-08	2E-07	1E-09	8E-09	2E-08	1E-07	8E-08	5E-07
n-nitrosodimethylamine	0.3205	U									

Cancer Risk for Detected Compounds Only:	**Sum = 1.1E-04 ***	**Sum = 5.1E-06**	**Sum = 6.5E-05**	**Sum = 3.4E-04 ***
Cancer Risk for Nondetected Compounds Only:	**Sum = 1.8E-07**	**Sum = 8.2E-09**	**Sum = 1.1E-07**	**Sum = 5.4E-07**
Cancer Risk for Detected and Nondetected Compounds:	**Sum = 1.1E-04 ***	**Sum = 5.1E-06**	**Sum = 6.5E-05**	**Sum = 3.4E-04 ***

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 14. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Ingestion of Drinking Water/Groundwater.
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (ug/L)	Qualifier	Slope Factor (1/mg/kg/d)	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
				LADD	CR	LADD	CR	LADD	CR	LADD	CR
1,2-Dichloropropane	4.9		7E-02	2E-05	1E-06	2E-06	1E-07	2E-05	1E-06	1E-05	7E-07
Benzene	9600		6E-02	3E-02	2E-03 *	4E-03	2E-04 *	3E-02	2E-03 *	2E-02	1E-03 *
1,1,1,2-tetrachloroethane	0.5	U	3E-02	2E-06	5E-08	2E-07	5E-09	2E-06	4E-08	1E-06	3E-08
1,1,2,2-tetrachloroethane	0.5	U	2E-01	2E-06	3E-07	2E-07	4E-08	2E-06	3E-07	1E-06	2E-07
1,1,2-trichloroethane	0.5	U	6E-02	2E-06	1E-07	2E-07	1E-08	2E-06	9E-08	1E-06	6E-08
1,1-dichloroethene	0.5	U	6E-01	2E-06	1E-06	2E-07	1E-07	2E-06	9E-07	1E-06	6E-07
1,2-dibromo-3-chloropropane	0.5	U	1E+00	2E-06	2E-06	2E-07	3E-07	2E-06	2E-06	1E-06	1E-06
1,2-dibromoethane	0.5	U	9E+01	2E-06	1E-04 *	2E-07	2E-05	2E-06	1E-04 *	1E-06	9E-05
1,2-dichloroethane	0.5	U	9E-02	2E-06	2E-07	2E-07	2E-08	2E-06	1E-07	1E-06	9E-08
1,4-dichlorobenzene	0.5	U	2E-02	2E-06	4E-08	2E-07	5E-09	2E-06	4E-08	1E-06	2E-08
bromodichloromethane	0.5	U	6E-02	2E-06	1E-07	2E-07	1E-08	2E-06	1E-07	1E-06	6E-08
carbon tetrachloride	0.5	U	1E-01	2E-06	2E-07	2E-07	3E-08	2E-06	2E-07	1E-06	1E-07
cis-1,3-dichloropropene	0.5	U	1E-01	2E-06	2E-07	2E-07	2E-08	2E-06	2E-07	1E-06	1E-07
dibromochloromethane	0.5	U	8E-02	2E-06	1E-07	2E-07	2E-08	2E-06	1E-07	1E-06	9E-08
tetrachloroethene	0.5	U	5E-02	2E-06	9E-08	2E-07	1E-08	2E-06	8E-08	1E-06	5E-08
trans-1,3-dichloropropene	0.5	U	1E-01	2E-06	2E-07	2E-07	2E-08	2E-06	2E-07	1E-06	1E-07
trichloroethene	0.5	U	4E-01	2E-06	7E-07	2E-07	8E-08	2E-06	6E-07	1E-06	4E-07
vinyl chloride	0.5	U	1E+00	2E-06	2E-06	2E-07	3E-07	2E-06	2E-06	1E-06	1E-06
Cancer Risk for Detected Compounds Only:				**Sum = 1.8E-03 ***		**Sum = 2.2E-04 ***		**Sum = 1.6E-03 ***		**Sum = 1.1E-03 ***	
Cancer Risk for Nondetected Compounds Only:				**Sum = 1.6E-04 ***		**Sum = 1.9E-05**		**Sum = 1.4E-04 ***		**Sum = 9.3E-05**	
Cancer Risk for Detected and Nondetected Compounds:				**Sum = 2.0E-03 ***		**Sum = 2.4E-04 ***		**Sum = 1.8E-03 ***		**Sum = 1.2E-03 ***	

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 16. Quantitative Risk Assessment - Carcinogenic
Commercial Use - Dermal Contact/Groundwater.
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration (ug/L)	Qualifier	Slope Factor (1/mg/kg/d)	Adult Worker		Construction Worker		Youth Visitor		Child Visitor	
				LADD	CR	LADD	CR	LADD	CR	LADD	CR
1,2-Dichloropropane	4.9		7E-02	8E-06	5E-07	2E-07	1E-08	5E-07	3E-08	3E-07	2E-08
Benzene	9600		6E-02	3E-02	2E-03 *	6E-04	4E-05	2E-03	1E-04 *	1E-03	8E-05
1,1,1,2-tetrachloroethane	0.5	U									
1,1,2,2-tetrachloroethane	0.5	U	2E-01	7E-07	1E-07	1E-08	3E-09	5E-08	9E-09	3E-08	6E-09
1,1,2-trichloroethane	0.5	U	6E-02	7E-07	4E-08	1E-08	8E-10	4E-08	2E-09	3E-08	2E-09
1,1-dichloroethene	0.5	U	6E-01	1E-06	8E-07	3E-08	2E-08	8E-08	5E-08	5E-08	3E-08
1,2-dibromo-3-chloropropane	0.5	U	1E+00								
1,2-dibromoethane	0.5	U	9E+01								
1,2-dichloroethane	0.5	U	9E-02	4E-07	4E-08	8E-09	8E-10	3E-08	2E-09	2E-08	2E-09
1,4-dichlorobenzene	0.5	U	2E-02	5E-06	1E-07	1E-07	2E-09	3E-07	8E-09	2E-07	5E-09
bromodichloromethane	0.5	U	6E-02	5E-07	3E-08	9E-09	6E-10	3E-08	2E-09	2E-08	1E-09
carbon tetrachloride	0.5	U	1E-01	2E-06	2E-07	3E-08	5E-09	1E-07	1E-08	7E-08	1E-08
cis-1,3-dichloropropene	0.5	U	1E-01	4E-07	4E-08	9E-09	9E-10	3E-08	3E-09	2E-08	2E-09
dibromochloromethane	0.5	U	8E-02	3E-07	3E-08	6E-09	5E-10	2E-08	2E-09	1E-08	1E-09
tetrachloroethene	0.5	U	5E-02	4E-06	2E-07	8E-08	4E-09	2E-07	1E-08	2E-07	8E-09
trans-1,3-dichloropropene	0.5	U	1E-01	4E-07	4E-08	9E-09	9E-10	3E-08	3E-09	2E-08	2E-09
trichloroethene	0.5	U	4E-01	1E-06	5E-07	3E-08	1E-08	8E-08	3E-08	5E-08	2E-08
vinyl chloride	0.5	U	1E+00	6E-07	8E-07	1E-08	2E-08	4E-08	5E-08	2E-08	3E-08
Cancer Risk for Detected Compounds Only:				**Sum = 1.8E-03 ***		**Sum = 3.5E-05**		**Sum = 1.1E-04 ***		**Sum = 7.5E-05**	
Cancer Risk for Nondetected Compounds Only:				**Sum = 3.0E-06**		**Sum = 6.0E-08**		**Sum = 1.9E-07**		**Sum = 1.3E-07**	
Cancer Risk for Detected and Nondetected Compounds:				**Sum = 1.8E-03 ***		**Sum = 3.5E-05**		**Sum = 1.1E-04 ***		**Sum = 7.5E-05**	

LADD = lifetime average daily dose (mg/kg/d). CR = Cancer risk. Compounds printed in lowercase letters were not detected in any sample.

* Cancer risk exceeds 10E-4.

Table 18. Comparison of detected groundwater contaminant concentrations to MDE and EPA Freshwater Ambient Water Quality Criteria
For Frederick Site I, East Patrick and East Street Frederick, Maryland.

Analyte	Concentration	Freshwater Criteria				Fish Consumption (Organism only)	
		MDE Aquatic Life Criteria		EPA Water Quality Criteria			
		Acute:	Chronic:	Acute:	Chronic:	MDE	USEPA
1,2-Dichloropropane	4.9	--	--	--	--	--	--
Benzene	9600	--	--	5300 c	--	--	71
Ethylbenzene	5700	--	--	32000 c	--	--	29000
Isopropylbenzene	260	--	--	--	--	--	--
Toluene	3100	--	--	17500 c	--	--	300000
Xylene, Total	7400	--	--	--	--	--	--

= The toxicicty of certain substances is decreased or increased by hardness or pH. For these substances MDE may modify the criteria at a site; b = The fresh water aquatic fe criteria for cyanide apply only to those waters of the State designed as uses III, III-P, IV, or IV-P. In all other waters of the State cyanide acute and chronic aquatic life riteria of 31.3 and 7.3 ug/L, respectively, apply; c = Insufficient data to develop criteria. Value represents the lowest observed effect level (LOEL); d = Proposed criterion; e = Hardness dependent criteria (100 mg/L CaCO3 used); f = pH dependent criteria, (7.8 pH used); g = Silver has a hardness dependent value as well as different proposed riteria values.

ontaminant concentrations are reported in units of ug/L.

ATTACHMENT A

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC		Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)	Pass Tier 1 Screen ?
Water: Groundwater											
Organics:											
MW-1	Carbon tetrachloride	56235	water	0.5	U	ug/l	1.62E-01	C	Fail	--	--
MW-1	Chlorobenzene	108907	water	0.5	U	ug/l	1.06E+01	* N	Pass	--	--
MW-1	Chloroethane	75003	water	0.5	U	ug/l	3.64E+00	C	Pass	--	--
MW-1	Chloroform	67663	water	0.5	U	ug/l	1.55E-01	C	Fail	--	--
MW-1	Chloromethane	74873	water	0.5	U	ug/l	2.11E+00	C	Pass	--	--
MW-1	cis-1,2-Dichloroethene	156592	water	0.5	U	ug/l	6.08E+00	* N	Pass	--	--
MW-2	cis-1,3-Dichloropropene	542756	water	0.5	U	ug/l	4.36E-01	C	Fail	--	--
MW-2	Dibromochloromethane	124481	water	0.5	U	ug/l	1.26E-01	C	Fail	--	--
MW-2	Dichlorodifluoromethane	75718	water	0.5	U	ug/l	3.48E+01	* N	Pass	--	--
MW-1	Dichloromethane	75092	water	0.5	U	ug/l	4.10E+00	C	Pass	--	--
MW-2	Ethylbenzene	100414	water	5700		ug/l	3.25E+00	C	Fail	--	--
MW-2	Isopropylbenzene	98828	water	260		ug/l	6.58E+01	* N	Fail	--	--
MW-2	Methyl Acetate	79209	water	0.5	U	ug/l	6.08E+02	* N	Pass	--	--
MW-2	Methyl-t-butyl ether	1634044	water	0.5	U	ug/l	2.64E+00	C	Pass	--	--
MW-2	Methylcyclohexane	108872	water	0.5	U	ug/l	6.28E+02	* N	Pass	--	--
MW-2	Styrene	100425	water	0.5	U	ug/l	1.62E+02	* N	Pass	--	--
MW-2	Tetrachloroethene	127184	water	0.5	U	ug/l	6.35E-02	C	Fail	--	--
MW-1	Toluene	108883	water	3100		ug/l	7.47E+01	* N	Fail	--	--
MW-2	trans-1,2-Dichloroethene	156605	water	0.5	U	ug/l	1.22E+01	* N	Pass	--	--
MW-1	trans-1,3-Dichloropropene	542756	water	0.5	U	ug/l	4.36E-01	C	Fail	--	--
MW-2	Trichloroethene	79016	water	0.5	U	ug/l	2.64E-02	C	Fail	--	--
MW-2	Trichlorofluoromethane	75694	water	0.5	U	ug/l	1.29E+02	* N	Pass	--	--
MW-2	Vinyl chloride	75014	water	0.5	U	ug/l	1.50E-02	C	Fail	--	--
MW-2	Xylene, Total	1330207	water	7400		ug/l	1.22E+03	* N	Fail	--	--

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC	Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)		Pass Tier 1 Screen ?
soil											
Surface:											
Organics:											
FS-2	1,1,1,2-Tetrachloroethane	630206	soil	0.003	U	mg/kg	--	--	2.50E+01	C	Pass
FS-2	1,1,1-Trichloroethane	71556	soil	0.003	U	mg/kg	--	--	2.20E+03	* N	Pass
FS-2	1,1,2,2-Tetrachloroethane	79345	soil	0.003	U	mg/kg	--	--	3.20E+00	C	Pass
FS-2	1,1,2-Trichloroethane	79005	soil	0.003	U	mg/kg	--	--	1.10E+01	C	Pass
FS-2	1,1-Dichloroethane	75343	soil	0.003	U	mg/kg	--	--	7.80E+02	* N	Pass
FS-2	1,1-Dichloroethene	75354	soil	0.003	U	mg/kg	--	--	1.10E+00	C	Pass
FS-2	1,2,3-Trichlorobenzene	120821	soil	0.003	U	mg/kg	--	--	7.80E+01	* N	Pass
FS-8	1,2,4-Trichlorobenzene	120821	soil	0.329	U	mg/kg	--	--	7.80E+01	* N	Pass
FS-2	1,2-Dibromo-3-chloropropane	96128	soil	0.003	U	mg/kg	--	--	4.60E-01	C	Pass
FS-2	1,2-Dibromoethane	106934	soil	0.003	U	mg/kg	--	--	7.50E-03	C	Pass
FS-8	1,2-Dichlorobenzene	95501	soil	0.329	U	mg/kg	--	--	7.04E+02	* N	Pass
FS-2	1,2-Dichloroethane	107062	soil	0.003	U	mg/kg	--	--	7.00E+00	C	Pass
FS-2	1,2-Dichloropropane	78875	soil	0.003	U	mg/kg	--	--	9.40E+00	C	Pass
FS-8	1,3-Dichlorobenzene	541731	soil	0.329	U	mg/kg	--	--	2.35E+02	* N	Pass
FS-8	1,4-Dichlorobenzene	106467	soil	0.329	U	mg/kg	--	--	2.70E+01	C	Pass
FS-8	2,4,5-Trichlorophenol	95954	soil	0.329	U	mg/kg	--	--	7.80E+02	* N	Pass
FS-8	2,4,6-Trichlorophenol	88062	soil	0.329	U	mg/kg	--	--	5.80E+01	C	Pass
FS-8	2,4-Dichlorophenol	120832	soil	0.329	U	mg/kg	--	--	2.30E+01	* N	Pass
FS-8	2,4-Dimethylphenol	105679	soil	0.329	U	mg/kg	--	--	1.60E+02	* N	Pass
FS-8	2,4-Dinitrophenol	51285	soil	0.329	U	mg/kg	--	--	1.60E+01	* N	Pass
FS-8	2,4-Dinitrotoluene	121142	soil	0.329	U	mg/kg	--	--	1.60E+01	* N	Pass
FS-8	2,6-Dinitrotoluene	606202	soil	0.329	U	mg/kg	--	--	7.80E+00	* N	Pass
FS-2	2-Butanone	78933	soil	0.016	U	mg/kg	--	--	4.70E+03	* N	Pass
FS-8	2-Chloronaphthalene	91587	soil	0.329	U	mg/kg	--	--	6.30E+02	* N	Pass
FS-8	2-Chlorophenol	95578	soil	0.329	U	mg/kg	--	--	3.90E+01	* N	Pass
FS-2	2-Hexanone	591786	soil	0.016	U	mg/kg	--	--	3.10E+02	* N	Pass
FS-8	2-Methylnaphthalene	91576	soil	0.329	U	mg/kg	--	--	1.60E+02	* N	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC	Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)		Pass Tier 1 Screen ?
soil											
Surface:											
Organics:											
FS-8	Benzyl butyl phthalate	85687	soil	0.329	U	mg/kg	--	--	1.60E+03	* N	Pass
FS-8	Bis(2-chloroisopropyl)ether	108601	soil	0.329	U	mg/kg	--	--	9.10E+00	C	Pass
FS-8	Bis-(2-chloroethyl)ether	111444	soil	0.329	U	mg/kg	--	--	5.80E-01	C	Pass
FS-8	Bis-(2-ethylhexyl)-phthalate	117817	soil	0.329	U	mg/kg	--	--	4.60E+01	C	Pass
FS-2	Bromodichloromethane	75274	soil	0.003	U	mg/kg	--	--	1.00E+01	C	Pass
FS-2	Bromoform	75252	soil	0.003	U	mg/kg	--	--	8.10E+01	C	Pass
FS-2	Bromomethane	74839	soil	0.003	U	mg/kg	--	--	1.10E+01	* N	Pass
FS-8	Carbazole	86748	soil	0.329	U	mg/kg	--	--	3.20E+01	C	Pass
FS-2	Carbon disulfide	75150	soil	0.003	U	mg/kg	--	--	7.80E+02	* N	Pass
FS-2	Carbon tetrachloride	56235	soil	0.003	U	mg/kg	--	--	4.90E+00	C	Pass
FS-8	Chlordane	57749	soil	0.033	U	mg/kg	--	--	1.80E+00	C	Pass
FS-2	Chlorobenzene	108907	soil	0.003	U	mg/kg	--	--	1.60E+02	* N	Pass
FS-2	Chloroethane	75003	soil	0.003	U	mg/kg	--	--	2.20E+02	C	Pass
FS-2	Chloroform	67663	soil	0.003	U	mg/kg	--	--	7.82E+01	* N	Pass
FS-2	Chloromethane	74873	soil	0.003	U	mg/kg	--	--	4.91E+01	C	Pass
FS-8	Chrysene	218019	soil	1.8		mg/kg	--	--	8.80E+01	C	Pass
FS-2	cis-1,2-Dichloroethene	156592	soil	0.003	U	mg/kg	--	--	7.80E+01	* N	Pass
FS-2	cis-1,3-Dichloropropene	542756	soil	0.003	U	mg/kg	--	--	6.40E+00	C	Pass
FS-8	d-BHC	58899	soil	0.0065	U	mg/kg	--	--	4.90E-01	C	Pass
FS-8	Di-n-butyl phthalate	84742	soil	0.329	U	mg/kg	--	--	7.80E+02	* N	Pass
FS-8	Di-n-octyl phthalate	117840	soil	0.329	U	mg/kg	--	--	1.60E+02	* N	Pass
FS-8	Dibenz[a,h]anthracene	53703	soil	0.329	U	mg/kg	--	--	8.80E-02	C	Fail
FS-8	Dibenzofuran	132649	soil	0.329	U	mg/kg	--	--	3.10E+01	* N	Pass
FS-2	Dibromochloromethane	124481	soil	0.003	U	mg/kg	--	--	7.60E+00	C	Pass
FS-2	Dichlorodifluoromethane	75718	soil	0.003	U	mg/kg	--	--	1.60E+03	* N	Pass
FS-4	Dichloromethane	75092	soil	0.025		mg/kg	--	--	8.50E+01	C	Pass
FS-8	Dieldrin	60571	soil	0.0065	U	mg/kg	--	--	4.00E-02	C	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC	Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)		Pass Tier 1 Screen ?
soil											
Surface:											
Organics:											
FS-8	N-Nitrosodiphenylamine	86306	soil	0.329	U	mg/kg	--	--	1.30E+02	C	Pass
FS-8	Naphthalene	91203	soil	0.329	U	mg/kg	--	--	1.60E+02	* N	Pass
FS-8	Nitrobenzene	98953	soil	0.329	U	mg/kg	--	--	3.90E+00	* N	Pass
FS-8	Pentachlorophenol	87865	soil	0.329	U	mg/kg	--	--	5.30E+00	C	Pass
FS-8	Phenanthrene	120127	soil	3.2		mg/kg	--	--	2.30E+03	* N	Pass
FS-8	Phenol	108952	soil	0.329	U	mg/kg	--	--	4.70E+03	* N	Pass
FS-8	Pyrene	129000	soil	3.4		mg/kg	--	--	2.30E+02	* N	Pass
FS-2	Styrene	100425	soil	0.003	U	mg/kg	--	--	1.60E+03	* N	Pass
FS-2	Tetrachloroethene	127184	soil	0.003	U	mg/kg	--	--	1.20E+01	C	Pass
FS-2	Toluene	108883	soil	0.003	U	mg/kg	--	--	1.60E+03	* N	Pass
FS-7	Toxaphene	8001352	soil	0.033	U	mg/kg	--	--	5.80E-01	C	Pass
FS-2	trans-1,2-Dichloroethene	156605	soil	0.003	U	mg/kg	--	--	1.60E+02	* N	Pass
FS-2	trans-1,3-Dichloropropene	542756	soil	0.003	U	mg/kg	--	--	6.40E+00	C	Pass
FS-2	Trichloroethene	79016	soil	0.003	U	mg/kg	--	--	1.60E+00	C	Pass
FS-2	Trichlorofluoromethane	75694	soil	0.003	U	mg/kg	--	--	2.30E+03	* N	Pass
FS-2	Vinyl chloride	75014	soil	0.003	U	mg/kg	--	--	9.00E-02	C	Pass
FS-6	Xylene, Total	1330207	soil	0.003	U	mg/kg	--	--	1.60E+04	* N	Pass
Subsurface:											
No RBCs Available											
FSS-7	1,1,2-Trichlo-1,2,2-trifluoroethane		soil	0.0035	U	mg/kg	--	--			?
FSS-6	4-Bromophenyl phenyl ether		soil	0.3205	U	mg/kg	--	--			?
FSS-4	4-Chloro-3-methylphenol		soil	0.3205	U	mg/kg	--	--			?
FSS-4	4-Chlorophenyl phenyl ether		soil	0.3205	U	mg/kg	--	--			?
FSS-4	Bis-(2-chloroethoxy)methane		soil	0.3205	U	mg/kg	--	--			?
FSS-7	Bromochloromethane		soil	0.0035	U	mg/kg	--	--			?
FSS-8	Cyclohexane		soil	0.0035	U	mg/kg	--	--			?
FSS-6	Diesel Range Organics by GC/FID		soil	1500		mg/kg	--	--			?

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC	Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)		Pass Tier 1 Screen ?
soil											
Subsurface:											
Organics:											
FSS-8	1,2-Dibromo-3-chloropropane	96128	soil	0.0035	U	mg/kg	--	--	4.60E-01	C	Pass
FSS-8	1,2-Dibromoethane	106934	soil	0.0035	U	mg/kg	--	--	7.50E-03	C	Pass
FSS-4	1,2-Dichlorobenzene	95501	soil	0.3205	U	mg/kg	--	--	7.04E+02	* N	Pass
FSS-8	1,2-Dichloroethane	107062	soil	0.0035	U	mg/kg	--	--	7.00E+00	C	Pass
FSS-8	1,2-Dichloropropane	78875	soil	0.0035	U	mg/kg	--	--	9.40E+00	C	Pass
FSS-4	1,3-Dichlorobenzene	541731	soil	0.3205	U	mg/kg	--	--	2.35E+02	* N	Pass
FSS-4	1,4-Dichlorobenzene	106467	soil	0.3205	U	mg/kg	--	--	2.70E+01	C	Pass
FSS-4	2,4,5-Trichlorophenol	95954	soil	0.3205	U	mg/kg	--	--	7.80E+02	* N	Pass
FSS-4	2,4,6-Trichlorophenol	88062	soil	0.3205	U	mg/kg	--	--	5.80E+01	C	Pass
FSS-4	2,4-Dichlorophenol	120832	soil	0.3205	U	mg/kg	--	--	2.30E+01	* N	Pass
FSS-6	2,4-Dimethylphenol	105679	soil	0.3205	U	mg/kg	--	--	1.60E+02	* N	Pass
FSS-6	2,4-Dinitrophenol	51285	soil	0.3205	U	mg/kg	--	--	1.60E+01	* N	Pass
FSS-6	2,4-Dinitrotoluene	121142	soil	0.3205	U	mg/kg	--	--	1.60E+01	* N	Pass
FSS-6	2,6-Dinitrotoluene	606202	soil	0.3205	U	mg/kg	--	--	7.80E+00	* N	Pass
FSS-8	2-Butanone	78933	soil	0.017	U	mg/kg	--	--	4.70E+03	* N	Pass
FSS-6	2-Chloronaphthalene	91587	soil	0.3205	U	mg/kg	--	--	6.30E+02	* N	Pass
FSS-6	2-Chlorophenol	95578	soil	0.3205	U	mg/kg	--	--	3.90E+01	* N	Pass
FSS-8	2-Hexanone	591786	soil	0.017	U	mg/kg	--	--	3.10E+02	* N	Pass
FSS-4	2-Methylnaphthalene	91576	soil	17		mg/kg	--	--	1.60E+02	* N	Pass
FSS-6	2-Methylphenol	95487	soil	0.3205	U	mg/kg	--	--	3.90E+02	* N	Pass
FSS-6	2-Nitroaniline	88744	soil	0.3205	U	mg/kg	--	--			?
FSS-6	2-Nitrophenol	100027	soil	0.3205	U	mg/kg	--	--	6.30E+01	* N	Pass
FSS-6	3,3'-Dichlorobenzidine	91941	soil	0.3205	U	mg/kg	--	--	1.40E+00	C	Pass
FSS-6	3-Nitroaniline	88744	soil	0.3205	U	mg/kg	--	--			?
FSS-4	4,4'-DDD	72548	soil	0.067		mg/kg	--	--	2.70E+00	C	Pass
FSS-4	4,4'-DDE	72559	soil	0.0065	U	mg/kg	--	--	1.90E+00	C	Pass
FSS-4	4,4'-DDT	50293	soil	0.0065	U	mg/kg	--	--	1.90E+00	C	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC	Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)		Pass Tier 1 Screen ?
soil											
Subsurface:											
Organics:											
FSS-8	Carbon disulfide	75150	soil	0.0035	U	mg/kg	--	--	7.80E+02	* N	Pass
FSS-8	Carbon tetrachloride	56235	soil	0.0035	U	mg/kg	--	--	4.90E+00	C	Pass
FSS-6	Chlordane	57749	soil	0.032	U	mg/kg	--	--	1.80E+00	C	Pass
FSS-8	Chlorobenzene	108907	soil	0.0035	U	mg/kg	--	--	1.60E+02	* N	Pass
FSS-8	Chloroethane	75003	soil	0.0035	U	mg/kg	--	--	2.20E+02	C	Pass
FSS-8	Chloroform	67663	soil	0.0035	U	mg/kg	--	--	7.82E+01	* N	Pass
FSS-8	Chloromethane	74873	soil	0.0035	U	mg/kg	--	--	4.91E+01	C	Pass
FSS-4	Chrysene	218019	soil	78		mg/kg	--	--	8.80E+01	C	Pass
FSS-7	cis-1,2-Dichloroethene	156592	soil	0.0035	U	mg/kg	--	--	7.80E+01	* N	Pass
FSS-8	cis-1,3-Dichloropropene	542756	soil	0.0035	U	mg/kg	--	--	6.40E+00	C	Pass
FSS-4	d-BHC	58899	soil	0.0065	U	mg/kg	--	--	4.90E-01	C	Pass
FSS-6	Di-n-butyl phthalate	84742	soil	0.3205	U	mg/kg	--	--	7.80E+02	* N	Pass
FSS-6	Di-n-octyl phthalate	117840	soil	0.3205	U	mg/kg	--	--	1.60E+02	* N	Pass
FSS-4	Dibenz[a,h]anthracene	53703	soil	8.8		mg/kg	--	--	8.80E-02	C	Fail
FSS-6	Dibenzofuran	132649	soil	0.3205	U	mg/kg	--	--	3.10E+01	* N	Pass
FSS-7	Dibromochloromethane	124481	soil	0.0035	U	mg/kg	--	--	7.60E+00	C	Pass
FSS-8	Dichlorodifluoromethane	75718	soil	0.0035	U	mg/kg	--	--	1.60E+03	* N	Pass
FSS-8	Dichloromethane	75092	soil	0.053		mg/kg	--	--	8.50E+01	C	Pass
FSS-4	Dieldrin	60571	soil	0.015		mg/kg	--	--	4.00E-02	C	Pass
FSS-4	Diethyl phthalate	84662	soil	0.3205	U	mg/kg	--	--	6.30E+03	* N	Pass
FSS-6	Dimethyl phthalate	131113	soil	0.3205	U	mg/kg	--	--	7.80E+04	* N	Pass
FSS-4	Endosulfan I	115297	soil	0.0065	U	mg/kg	--	--	4.70E+01	* N	Pass
FSS-4	Endosulfan II	115297	soil	0.034		mg/kg	--	--	4.70E+01	* N	Pass
FSS-4	Endosulfan Sulfate	115297	soil	0.011		mg/kg	--	--	4.70E+01	* N	Pass
FSS-4	Endrin	72208	soil	0.0065	U	mg/kg	--	--	2.40E+00	* N	Pass
FSS-4	Endrin Aldehyde	72208	soil	0.017		mg/kg	--	--	2.40E+00	* N	Pass
FSS-4	Endrin Ketone	72208	soil	0.0065	U	mg/kg	--	--	2.40E+00	* N	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	Adjusted Tap Water RBC	Pass Tier 1 Screen ?	Adjusted Soil RBC (Residential)		Pass Tier 1 Screen ?
soil											
Subsurface:											
Organics:											
FSS-7	Tetrachloroethene	127184	soil	0.0035	U	mg/kg	--	--	1.20E+01	C	Pass
FSS-4	Toluene	108883	soil	0.051		mg/kg	--	--	1.60E+03	* N	Pass
FSS-4	Toxaphene	8001352	soil	0.032	U	mg/kg	--	--	5.80E-01	C	Pass
FSS-7	trans-1,2-Dichloroethene	156605	soil	0.0035	U	mg/kg	--	--	1.60E+02	* N	Pass
FSS-8	trans-1,3-Dichloropropene	542756	soil	0.0035	U	mg/kg	--	--	6.40E+00	C	Pass
FSS-7	Trichloroethene	79016	soil	0.0035	U	mg/kg	--	--	1.60E+00	C	Pass
FSS-7	Trichlorofluoromethane	75694	soil	0.0035	U	mg/kg	--	--	2.30E+03	* N	Pass
FSS-7	Vinyl chloride	75014	soil	0.0035	U	mg/kg	--	--	9.00E-02	C	Pass
FSS-4	Xylene, Total	1330207	soil	0.1		mg/kg	--	--	1.60E+04	* N	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
Water: Groundwater										
Organics:										
MW-1	Carbon tetrachloride	56235	water	0.5	U	ug/l	5.00E+00	Pass	--	--
MW-1	Chlorobenzene	108907	water	0.5	U	ug/l	1.00E+02	Pass	--	--
MW-1	Chloroethane	75003	water	0.5	U	ug/l	3.60E+00	Pass	--	--
MW-1	Chloroform	67663	water	0.5	U	ug/l	8.00E+01	Pass	--	--
MW-1	Chloromethane	74873	water	0.5	U	ug/l	2.10E+00	Pass	--	--
MW-1	cis-1,2-Dichloroethene	156592	water	0.5	U	ug/l	7.00E+01	Pass	--	--
MW-1	cis-1,3-Dichloropropene	542756	water	0.5	U	ug/l	1.00E+00	Pass	--	--
MW-1	Dibromochloromethane	124481	water	0.5	U	ug/l	8.00E+01	Pass	--	--
MW-1	Dichlorodifluoromethane		water	0.5	U	ug/l		?	--	--
MW-1	Dichloromethane	75092	water	0.5	U	ug/l	5.00E+00	Pass	--	--
MW-2	Ethylbenzene	100414	water	5700		ug/l	7.00E+02	Fail	--	--
MW-2	Isopropylbenzene	98828	water	260		ug/l	6.60E+01	Fail	--	--
MW-1	Methyl Acetate		water	0.5	U	ug/l		?	--	--
MW-1	Methyl-t-butyl ether	1634044	water	0.5	U	ug/l	2.00E+01	Pass	--	--
MW-1	Methylcyclohexane		water	0.5	U	ug/l		?	--	--
MW-1	Styrene	100425	water	0.5	U	ug/l	1.00E+02	Pass	--	--
MW-1	Tetrachloroethene	127184	water	0.5	U	ug/l	5.00E+00	Pass	--	--
MW-1	Toluene	108883	water	3100		ug/l	1.00E+03	Fail	--	--
MW-1	trans-1,2-Dichloroethene	156605	water	0.5	U	ug/l	1.00E+02	Pass	--	--
MW-1	trans-1,3-Dichloropropene	542756	water	0.5	U	ug/l	1.00E+00	Pass	--	--
MW-2	Trichloroethene	79016	water	0.5	U	ug/l	5.00E+00	Pass	--	--
MW-2	Trichlorofluoromethane		water	0.5	U	ug/l		?	--	--
MW-2	Vinyl chloride	75014	water	0.5	U	ug/l	2.00E+00	Pass	--	--
MW-2	Xylene, Total	1330207	water	7400		ug/l	1.00E+04	Pass	--	--

• RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
soil										
Surface:										
Organics:										
FS-6	1,1,1,2-Tetrachloroethane		soil	0.003	U	mg/kg	--	--		?
FS-6	1,1,1-Trichloroethane	71556	soil	0.003	U	mg/kg	--	--	5.70E+04	Pass
FS-6	1,1,2,2-Tetrachloroethane	79345	soil	0.003	U	mg/kg	--	--	2.90E+01	Pass
FS-6	1,1,2-Trichloroethane	79005	soil	0.003	U	mg/kg	--	--	1.00E+02	Pass
FS-6	1,1-Dichloroethane	75343	soil	0.003	U	mg/kg	--	--	2.00E+04	Pass
FS-6	1,1-Dichloroethene	75354	soil	0.003	U	mg/kg	--	--	9.50E+00	Pass
FS-6	1,2,3-Trichlorobenzene	120821	soil	0.003	U	mg/kg	--	--	2.00E+03	Pass
FS-8	1,2,4-Trichlorobenzene	120821	soil	0.329	U	mg/kg	--	--	2.00E+03	Pass
FS-6	1,2-Dibromo-3-chloropropane	96128	soil	0.003	U	mg/kg	--	--	4.10E+00	Pass
FS-6	1,2-Dibromoethane	106934	soil	0.003	U	mg/kg	--	--	6.70E-02	Pass
FS-8	1,2-Dichlorobenzene	95501	soil	0.329	U	mg/kg	--	--	1.80E+04	Pass
FS-6	1,2-Dichloroethane	107062	soil	0.003	U	mg/kg	--	--	6.30E+01	Pass
FS-6	1,2-Dichloropropane	78875	soil	0.003	U	mg/kg	--	--	8.40E+01	Pass
FS-8	1,3-Dichlorobenzene	541731	soil	0.329	U	mg/kg	--	--	6.10E+03	Pass
FS-8	1,4-Dichlorobenzene	106467	soil	0.329	U	mg/kg	--	--	2.40E+02	Pass
FS-8	2,4,5-Trichlorophenol	95954	soil	0.329	U	mg/kg	--	--	2.00E+04	Pass
FS-8	2,4,6-Trichlorophenol	88062	soil	0.329	U	mg/kg	--	--	5.20E+02	Pass
FS-8	2,4-Dichlorophenol	120832	soil	0.329	U	mg/kg	--	--	6.10E+02	Pass
FS-8	2,4-Dimethylphenol	105679	soil	0.329	U	mg/kg	--	--	4.10E+03	Pass
FS-8	2,4-Dinitrophenol	51285	soil	0.329	U	mg/kg	--	--	4.10E+02	Pass
FS-8	2,4-Dinitrotoluene	121142	soil	0.329	U	mg/kg	--	--	4.10E+02	Pass
FS-8	2,6-Dinitrotoluene	606202	soil	0.329	U	mg/kg	--	--	2.00E+02	Pass
FS-2	2-Butanone	78933	soil	0.016	U	mg/kg	--	--	1.20E+05	Pass
FS-8	2-Chloronaphthalene	91587	soil	0.329	U	mg/kg	--	--	1.60E+04	Pass
FS-8	2-Chlorophenol	95578	soil	0.329	U	mg/kg	--	--	1.00E+03	Pass
FS-2	2-Hexanone	591786	soil	0.016	U	mg/kg	--	--	8.20E+03	Pass
FS-8	2-Methylnaphthalene	91576	soil	0.329	U	mg/kg	--	--	4.10E+03	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
soil										
Surface:										
Organics:										
FS-8	Benzyl butyl phthalate		soil	0.329	U	mg/kg	--	--		?
FS-8	Bis(2-chloroisopropyl)ether	108601	soil	0.329	U	mg/kg	--	--	8.20E+01	Pass
FS-8	Bis-(2-chloroethyl)ether	111444	soil	0.329	U	mg/kg	--	--	5.20E+00	Pass
FS-8	Bis-(2-ethylhexyl)-phthalate	117817	soil	0.329	U	mg/kg	--	--	4.10E+02	Pass
FS-4	Bromodichloromethane	75274	soil	0.003	U	mg/kg	--	--	9.20E+01	Pass
FS-4	Bromoform	75252	soil	0.003	U	mg/kg	--	--	7.20E+02	Pass
FS-4	Bromomethane	74839	soil	0.003	U	mg/kg	--	--	2.90E+02	Pass
FS-8	Carbazole	86748	soil	0.329	U	mg/kg	--	--	2.90E+02	Pass
FS-4	Carbon disulfide	75150	soil	0.003	U	mg/kg	--	--	2.00E+04	Pass
FS-4	Carbon tetrachloride	56235	soil	0.003	U	mg/kg	--	--	4.40E+01	Pass
FS-8	Chlordane	57749	soil	0.033	U	mg/kg	--	--	1.60E+01	Pass
FS-4	Chlorobenzene	108907	soil	0.003	U	mg/kg	--	--	4.10E+03	Pass
FS-2	Chloroethane	75003	soil	0.003	U	mg/kg	--	--	2.00E+03	Pass
FS-4	Chloroform	67663	soil	0.003	U	mg/kg	--	--	9.40E+02	Pass
FS-4	Chloromethane	74873	soil	0.003	U	mg/kg	--	--	4.40E+02	Pass
FS-8	Chrysene	218019	soil	1.8		mg/kg	--	--	7.80E+02	Pass
FS-4	cis-1,2-Dichloroethene	156592	soil	0.003	U	mg/kg	--	--	2.00E+03	Pass
FS-2	cis-1,3-Dichloropropene	542756	soil	0.003	U	mg/kg	--	--	5.70E+01	Pass
FS-7	d-BHC	58899	soil	0.0065	U	mg/kg	--	--	4.40E+00	Pass
FS-8	Di-n-butyl phthalate	84742	soil	0.329	U	mg/kg	--	--	2.00E+04	Pass
FS-7	Di-n-octyl phthalate	117840	soil	0.329	U	mg/kg	--	--	4.10E+03	Pass
FS-7	Dibenz[a,h]anthracene	53703	soil	0.329	U	mg/kg	--	--	7.80E-01	Pass
FS-7	Dibenzofuran	132649	soil	0.329	U	mg/kg	--	--	8.20E+02	Pass
FS-4	Dibromochloromethane	124481	soil	0.003	U	mg/kg	--	--	6.80E+01	Pass
FS-4	Dichlorodifluoromethane		soil	0.003	U	mg/kg	--	--		?
FS-4	Dichloromethane	75092	soil	0.025		mg/kg	--	--	7.60E+02	Pass
FS-8	Dieldrin	60571	soil	0.0065	U	mg/kg	--	--	3.60E-01	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
soil										
Surface:										
Organics:										
FS-8	N-Nitrosodiphenylamine	86306	soil	0.329	U	mg/kg	--	--	1.20E+03	Pass
FS-8	Naphthalene	91203	soil	0.329	U	mg/kg	--	--	4.10E+03	Pass
FS-8	Nitrobenzene	98953	soil	0.329	U	mg/kg	--	--	1.00E+02	Pass
FS-7	Pentachlorophenol	87865	soil	0.329	U	mg/kg	--	--	4.80E+01	Pass
FS-8	Phenanthrene	120127	soil	3.2		mg/kg	--	--	6.10E+04	Pass
FS-7	Phenol	108952	soil	0.329	U	mg/kg	--	--	1.20E+05	Pass
FS-8	Pyrene	129000	soil	3.4		mg/kg	--	--	6.10E+03	Pass
FS-4	Styrene	100425	soil	0.003	U	mg/kg	--	--	4.10E+04	Pass
FS-4	Tetrachloroethene	127184	soil	0.003	U	mg/kg	--	--	1.10E+02	Pass
FS-4	Toluene	108883	soil	0.003	U	mg/kg	--	--	4.10E+04	Pass
FS-8	Toxaphene	8001352	soil	0.033	U	mg/kg	--	--	5.20E+00	Pass
FS-4	trans-1,2-Dichloroethene	156605	soil	0.003	U	mg/kg	--	--	4.10E+03	Pass
FS-4	trans-1,3-Dichloropropene	542756	soil	0.003	U	mg/kg	--	--	5.70E+01	Pass
FS-4	Trichloroethene	79016	soil	0.003	U	mg/kg	--	--	5.20E+02	Pass
FS-4	Trichlorofluoromethane		soil	0.003	U	mg/kg	--	--		?
FS-4	Vinyl chloride	75014	soil	0.003	U	mg/kg	--	--	7.90E+00	Pass
FS-4	Xylene, Total	1330207	soil	0.003	U	mg/kg	--	--	4.10E+05	Pass
Subsurface:										
No Standards Available										
FSS-8	1,1,2-Trichlo-1,2,2-trifluoroethane		soil	0.0035	U	mg/kg	--	--		?
FSS-4	4-Bromophenyl phenyl ether		soil	0.3205	U	mg/kg	--	--		?
FSS-6	4-Chloro-3-methylphenol		soil	0.3205	U	mg/kg	--	--		?
FSS-4	4-Chlorophenyl phenyl ether		soil	0.3205	U	mg/kg	--	--		?
FSS-4	Bis-(2-chloroethoxy)methane		soil	0.3205	U	mg/kg	--	--		?
FSS-7	Bromochloromethane		soil	0.0035	U	mg/kg	--	--		?
FSS-7	Cyclohexane		soil	0.0035	U	mg/kg	--	--		?
FSS-6	Diesel Range Organics by GC/FID		soil	1500		mg/kg	--	--		?

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
soil										
Subsurface:										
Organics:										
FSS-7	1,2-Dibromo-3-chloropropane	96128	soil	0.0035	U	mg/kg	--	--	4.10E+00	Pass
FSS-7	1,2-Dibromoethane	106934	soil	0.0035	U	mg/kg	--	--	6.70E-02	Pass
FSS-4	1,2-Dichlorobenzene	95501	soil	0.3205	U	mg/kg	--	--	1.80E+04	Pass
FSS-7	1,2-Dichloroethane	107062	soil	0.0035	U	mg/kg	--	--	6.30E+01	Pass
FSS-7	1,2-Dichloropropane	78875	soil	0.0035	U	mg/kg	--	--	8.40E+01	Pass
FSS-4	1,3-Dichlorobenzene	541731	soil	0.3205	U	mg/kg	--	--	6.10E+03	Pass
FSS-4	1,4-Dichlorobenzene	106467	soil	0.3205	U	mg/kg	--	--	2.40E+02	Pass
FSS-4	2,4,5-Trichlorophenol	95954	soil	0.3205	U	mg/kg	--	--	2.00E+04	Pass
FSS-4	2,4,6-Trichlorophenol	88062	soil	0.3205	U	mg/kg	--	--	5.20E+02	Pass
FSS-4	2,4-Dichlorophenol	120832	soil	0.3205	U	mg/kg	--	--	6.10E+02	Pass
FSS-4	2,4-Dimethylphenol	105679	soil	0.3205	U	mg/kg	--	--	4.10E+03	Pass
FSS-4	2,4-Dinitrophenol	51285	soil	0.3205	U	mg/kg	--	--	4.10E+02	Pass
FSS-4	2,4-Dinitrotoluene	121142	soil	0.3205	U	mg/kg	--	--	4.10E+02	Pass
FSS-4	2,6-Dinitrotoluene	606202	soil	0.3205	U	mg/kg	--	--	2.00E+02	Pass
FSS-8	2-Butanone	78933	soil	0.017	U	mg/kg	--	--	1.20E+05	Pass
FSS-4	2-Chloronaphthalene	91587	soil	0.3205	U	mg/kg	--	--	1.60E+04	Pass
FSS-4	2-Chlorophenol	95578	soil	0.3205	U	mg/kg	--	--	1.00E+03	Pass
FSS-8	2-Hexanone	591786	soil	0.017	U	mg/kg	--	--	8.20E+03	Pass
FSS-4	2-Methylnaphthalene	91576	soil	17		mg/kg	--	--	4.10E+03	Pass
FSS-4	2-Methylphenol	95487	soil	0.3205	U	mg/kg	--	--	1.00E+04	Pass
FSS-4	2-Nitroaniline	88744	soil	0.3205	U	mg/kg	--	--		?
FSS-4	2-Nitrophenol	100027	soil	0.3205	U	mg/kg	--	--	1.60E+03	Pass
FSS-4	3,3'-Dichlorobenzidine	91941	soil	0.3205	U	mg/kg	--	--	1.30E+01	Pass
FSS-4	3-Nitroaniline	88744	soil	0.3205	U	mg/kg	--	--		?
FSS-4	4,4'-DDD	72548	soil	0.067		mg/kg	--	--	2.40E+01	Pass
FSS-4	4,4'-DDE	72559	soil	0.0065	U	mg/kg	--	--	1.70E+01	Pass
FSS-4	4,4'-DDT	50293	soil	0.0065	U	mg/kg	--	--	1.70E+01	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
soil										
Subsurface:										
Organics:										
FSS-7	Carbon disulfide	75150	soil	0.0035	U	mg/kg	--	--	2.00E+04	Pass
FSS-7	Carbon tetrachloride	56235	soil	0.0035	U	mg/kg	--	--	4.40E+01	Pass
FSS-4	Chlordane	57749	soil	0.032	U	mg/kg	--	--	1.60E+01	Pass
FSS-7	Chlorobenzene	108907	soil	0.0035	U	mg/kg	--	--	4.10E+03	Pass
FSS-7	Chloroethane	75003	soil	0.0035	U	mg/kg	--	--	2.00E+03	Pass
FSS-7	Chloroform	67663	soil	0.0035	U	mg/kg	--	--	9.40E+02	Pass
FSS-7	Chloromethane	74873	soil	0.0035	U	mg/kg	--	--	4.40E+02	Pass
FSS-4	Chrysene	218019	soil	78		mg/kg	--	--	7.80E+02	Pass
FSS-7	cis-1,2-Dichloroethene	156592	soil	0.0035	U	mg/kg	--	--	2.00E+03	Pass
FSS-7	cis-1,3-Dichloropropene	542756	soil	0.0035	U	mg/kg	--	--	5.70E+01	Pass
FSS-4	d-BHC	58899	soil	0.0065	U	mg/kg	--	--	4.40E+00	Pass
FSS-4	Di-n-butyl phthalate	84742	soil	0.3205	U	mg/kg	--	--	2.00E+04	Pass
FSS-4	Di-n-octyl phthalate	117840	soil	0.3205	U	mg/kg	--	--	4.10E+03	Pass
FSS-4	Dibenz[a,h]anthracene	53703	soil	8.8		mg/kg	--	--	7.80E-01	Fail
FSS-4	Dibenzofuran	132649	soil	0.3205	U	mg/kg	--	--	8.20E+02	Pass
FSS-7	Dibromochloromethane	124481	soil	0.0035	U	mg/kg	--	--	6.80E+01	Pass
FSS-7	Dichlorodifluoromethane		soil	0.0035	U	mg/kg	--	--		?
FSS-8	Dichloromethane	75092	soil	0.053		mg/kg	--	--	7.60E+02	Pass
FSS-4	Dieldrin	60571	soil	0.015		mg/kg	--	--	3.60E-01	Pass
FSS-4	Diethyl phthalate	84662	soil	0.3205	U	mg/kg	--	--	1.60E+05	Pass
FSS-4	Dimethyl phthalate	131113	soil	0.3205	U	mg/kg	--	--	2.00E+06	Pass
FSS-4	Endosulfan I	115297	soil	0.0065	U	mg/kg	--	--	1.20E+03	Pass
FSS-4	Endosulfan II	115297	soil	0.034		mg/kg	--	--	1.20E+03	Pass
FSS-4	Endosulfan Sulfate	115297	soil	0.011		mg/kg	--	--	1.20E+03	Pass
FSS-4	Endrin	72208	soil	0.0065	U	mg/kg	--	--	6.10E+01	Pass
FSS-4	Endrin Aldehyde	72208	soil	0.017		mg/kg	--	--	6.10E+01	Pass
FSS-4	Endrin Ketone	72208	soil	0.0065	U	mg/kg	--	--	6.10E+01	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

Sample ID	Analyte	CAS	Matrix	Concentration	Qual.	Units	MDE Groundwater Standard	Pass Tier 1 Screen ?	MDE Soil Standard (Non-Residential)	Pass Tier 1 Screen ?
soil										
Subsurface:										
Organics:										
FSS-7	Tetrachloroethene	127184	soil	0.0035	U	mg/kg	--	--	1.10E+02	Pass
FSS-4	Toluene	108883	soil	0.051		mg/kg	--	--	4.10E+04	Pass
FSS-6	Toxaphene	8001352	soil	0.032	U	mg/kg	--	--	5.20E+00	Pass
FSS-7	trans-1,2-Dichloroethene	156605	soil	0.0035	U	mg/kg	--	--	4.10E+03	Pass
FSS-7	trans-1,3-Dichloropropene	542756	soil	0.0035	U	mg/kg	--	--	5.70E+01	Pass
FSS-7	Trichloroethene	79016	soil	0.0035	U	mg/kg	--	--	5.20E+02	Pass
FSS-7	Trichlorofluoromethane		soil	0.0035	U	mg/kg	--	--		?
FSS-7	Vinyl chloride	75014	soil	0.0035	U	mg/kg	--	--	7.90E+00	Pass
FSS-4	Xylene, Total	1330207	soil	0.1		mg/kg	--	--	4.10E+05	Pass

* RBC adjusted for non-carcinogenic additive effects; N = non-carcinogenic; C = carcinogenic. Note: no RBC value exists for inorganic mercury; the screening value was arbitrarily set at 1E-6 for soil and water.

DATA ENTRY SHEET

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES	

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES	X

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
78875	4.90E+00	1,2-Dichloropropane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)
200	671	SIC	13.9

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone soil dry bulk density, ρ_b^v (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)
SIC			1.5	0.43	0.3

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

DATA ENTRY SHEET

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
71432	9.60E+03	Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)
200	671	SIC	13.9

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone soil dry bulk density, ρ_b^v (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)
SIC			1.5	0.43	0.3

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

DATA ENTRY SHEET

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
100414	5.70E+03	Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)
200	671	SIC	13.9

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone soil dry bulk density, ρ_b^v (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)
SIC			1.5	0.43	0.3

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

DATA ENTRY SHEET

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES	

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES	X

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_w (µg/L)	Chemical
108883	3.10E+03	Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)
200	671	SIC	13.9

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone soil dry bulk density, ρ_b^v (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)
SIC			1.5	0.43	0.3

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250
Used to calculate risk-based groundwater concentration.					

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
7439976	1.50E+03	Mercury (elemental)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
56553	6.00E+02	Benz(a)anthracene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
50328	1.00E+02	Benzo(a)pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
205992	1.00E+02	Benzo(b)fluoranthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1

Used to calculate risk-based soil concentration.

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
129000	1.00E+02	Pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
207089	1.10E+03	Benzo(k)fluoranthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
218019	1.80E+03	Chrysene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
75092	2.50E+01	Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
206440	3.20E+03	Fluoranthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
193395	7.90E+02	Indeno(1,2,3-cd)pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
72435	7.40E+01	Methoxychlor

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
120127	3.20E+03	Anthracene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
129000	3.40E+03	Pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
7439976	1.10E+03	Mercury (elemental)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
79345	6.90E+00	1,1,2,2-Tetrachloroethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
72548	6.70E+01	DDD

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

SL-SCREEN
Version 2.3; 03/01

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
83329	6.40E+03	Acenaphthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
83329	2.10E+04	Acenaphthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
120127	3.10E+04	Anthracene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1

Used to calculate risk-based soil concentration.

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
71432	7.00E+01	Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
56553	7.00E+04	Benz(a)anthracene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
50328	1.20E+05	Benzo(a)pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
205992	4.10E+04	Benzo(b)fluoranthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
129000	8.10E+04	Pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
207089	5.10E+04	Benzo(k)fluoranthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
117817	1.40E+03	Bis(2-ethylhexyl)phthalate

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
218019	7.80E+04	Chrysene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
53703	8.80E+03	Dibenz(a,h)anthracene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
75092	5.30E+01	Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
60571	1.50E+01	Dieldrin

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
115297	3.40E+01	Endosulfan

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
115297	1.10E+01	Endosulfan

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
72208	1.70E+01	Endrin

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
100414	2.30E+02	Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
206440	1.05E+05	Fluoranthene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
86737	1.40E+04	Fluorene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
1024573	1.70E+01	Heptachlor epoxide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
193395	4.40E+04	Indeno(1,2,3-cd)pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
72435	5.90E+02	Methoxychlor

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
91203	5.20E+04	Naphthalene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
120127	1.80E+05	Anthracene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
129000	2.60E+05	Pyrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
100425	9.70E+00	Styrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

SL-SCREEN
Version 2.3; 03/01

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [X]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
108883	5.10E+01	Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	15	13.9	SIC		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)
1.5	0.43	0.3	0.002

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	250	1.0E-06	1
				Used to calculate risk-based soil concentration.	

END

ATTACHMENT D

MDE Well Survey Results

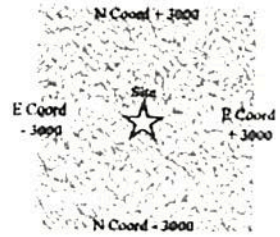
MDE Well Database Search

Report Date: 2/12/2003

Search Area: Approximately Zero to One-Half Mile

Site Name: Site I
East Coord.: 685550
North Coord.: 575700

Search Area



Database Date:
4 December 2002

- The search area is intentionally a little larger than one-half mile. Also, there are frequently errors in the well coordinates, so do not assume that all wells listed in this report actually are located within the search area. Each record should be evaluated to determine if it is located in the search area.
- Do not rely on the "Owner Address" field for the well location. This field is often the address of the property's developer rather than the actual address of the well location. Use the "Nearest Town" and "Nearest Road" columns along with a map to determine which wells actually are located within the search area.
- It is also recommended that you contact the local health department, engineering department, or water authority to check what resources they have available concerning groundwater use in the area.

Permit #	East Coord / North Coord	Owner / Address / City	Well Information: Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top/ Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
FR816089	685000 576000	CHICKEN MAN 306 E. PATRICA ST FREDERICK	T	21	8/31/1988	6	6 21	WATER STREET		FREDERICK
FR815037	684000 576000	CHEVRON OIL COMPANY 1380 W PATRICK ST FREDERICK	T	16	4/30/1987	15	15 16	W PATRICK RT 40		FREDERICK
FR815038	684000 576000	CHEVRON OIL COMPANY 1380 W PATRICK ST FREDERICK	T	12	4/30/1987	2	2 12	W PATRICK RT 40		FREDERICK
FR815039	684000 576000	CHEVRON OIL COMPANY 1380 W PATRICK ST FREDERICK	T	13	4/30/1987	1	1 13	W PATRICK RT 40		FREDERICK
FR815040	684000 576000	CHEVRON OIL CO 1380 W PATRICK ST FREDERICK	T	11	4/30/1987	10	10 11	W PATRICK ST RT 40		FREDERICK

Permit #	East Coord / North Coord	Owner / Address / City	Well Information: Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top / Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
FR815041	684000 576000	CHEVRON OIL CO 1380 W PATRICK ST FREDERICK	T	11	4/30/1987	10	10 11	W PATRICK ST RT 40		FREDERICK
FR884238	684000 575000	FREDERICK TERMINAL 200 E SOUTH ST FREDERICK	T					CARROLL ST	418 7 774	FREDERICK
FR815876	687000 577000	FREDERICK GAS COMPAN 5513 TWIN KNOLLS RD COLUMBIA	T					EAST PATRICK ST		FREDERICK
FR813574	687000 577000	MILLS TOM 5513 TWIN KNOLLS RD COLUMBIA	T	28	9/10/1986	17	15 25	350 E CHURCH ST		FREDERICK
FR816090	685000 576000	CHICKEN MAN 306 E. PATRICIA ST FREDERICK	T	21	8/31/1988	7	7 21	WATER STREET		FREDERICK
FR816091	685000 576000	CHICKEN MAN 306 E. PATRICK ST FREDERICK	T	20	8/31/1988	7	7 20	WATER STREET		FREDERICK
FR816092	685000 576000	CHICKEN MAN 306 E. PATRICK ST FREDERICK	T	18	8/31/1988	6	6 18	WATER STREET		FREDERICK
FR880076	685000 576000	CHICKEN MAN 306 E. PATRICK ST FREDERICK	T	16	12/13/1988	5	5 16	WATER STREET		FREDERICK

Permit #	East Coord / North Coord	Owner / Address / City	Well Information: Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top/ Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
FR880077	685000 576000	CHICKEN MAN 306 E. PATRICK ST FREDERICK	T	15	12/13/1988	5	5 15	WATER STREET		FREDERICK
FR880078	685000 576000	CHICKEN MAN 306 E. PATRICK ST FREDERICK	T	19	12/13/1988	4	4 19	WATER STREET		FREDERICK
FR815875	687000 577000	FREDERICK GAS COMPAN 5513 TWIN KNOLLS RD COLUMBIA	T					EAST PATRICK ST		FREDERICK
FR810804	687000 574000	CROWN OIL & WAX CO 216 W PATRICK ST FREDERICK	T	21	4/12/1983	6	6 21	E PATRICK ST		FREDERICK
FR884237	684000 575000	FREDERICK TERMINAL 200 E SOUTH ST FREDERICK	T					CARROLL ST	418 7 774	FREDERICK
FR884236	684000 575000	FREDERICK TERMINAL 200 E SOUTH ST FREDERICK	T					SOUTH STREET	418 7 774	FREDERICK
FR884240	684000 575000	FREDERICK TERMINAL 200 E SOUTH ST FREDERICK	T					SOUTH ST	418 7 774	FREDERICK
FR884239	684000 575000	FREDERICK TERMINAL 200 E SOUTH ST FREDERICK	T					CARROLL ST	418 7 774	FREDERICK

Permit #	East Coord / North Coord	Owner / Address / City	Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top/ Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
FR884161	685000 575000	MDE 2500 BROENING HIGHWA BALTIMORE	T	26	8/9/1994	5	5 25	306 E PATRICK ST	418 2 120	FREDERICK
FR884162	685000 575000	MDE 2500 BROENING HIGHWA BALTIMORE	T	26	8/10/1994	5	5 25	306 E PATRICK ST	418 2 120	FREDERICK
FR884909	686000 574000	RUMMELKLEPPERANDKAHL 81 MOSHER STREET BALTIMORE	T	20	2/1/1996	10	10 20	B AND O AVE	CSX RAILROAD 418 926	FREDERICK
FR884164	685000 575000	MDE 2500 BROENING HIGHWA BALTIMORE	T	26	8/10/1994	5	5 25	306 E PATRICK ST	418 2 120	FREDERICK
FR884903	687000 573000	RUMMELKLEPPERANDKAHL 81 MOSHER STREET BALTIMORE	T	27	2/9/1996	17	17 27	SOUTH ST	CSX RAILROAD 418	FREDERICK
FR883973	684000 576000	PHOENIX INC 46 CARROLL STREET FREDERICK	T	14	4/15/1994	2	11 14	SAGNER AVENUE		FREDERICK
FR884910	686000 574000	RUMMEL KLEPPER AND K 81 MOSHER STREET BALTIMORE	T					WATER STREET	CSX RAILROAD 418	FREDERICK
FR884904	687000 573000	RUMMEL KLEPPER AND K 81 MOSHER STREET BALTIMORE	T					SOUTH ST	CSX RAILROAD	FREDERICK

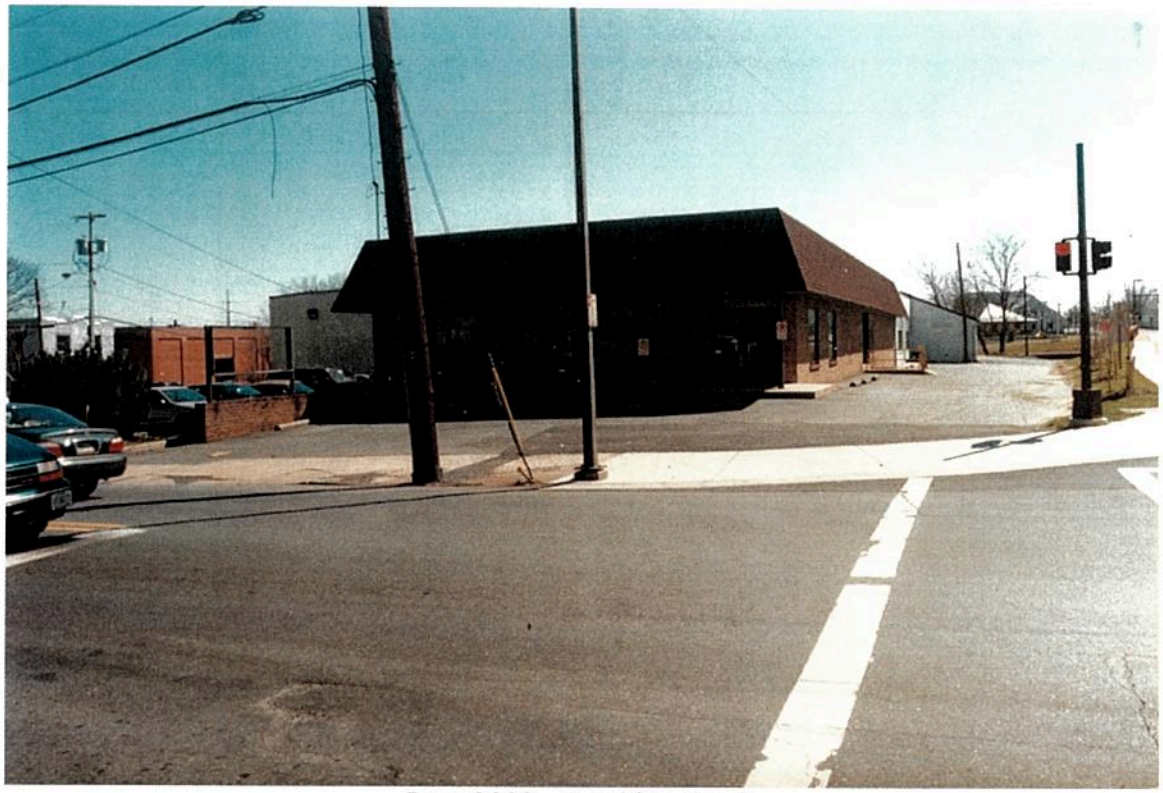
Permit #	East Coord / North Coord	Owner / Address / City	Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top/ Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
			Well Information							
FR940087	686000 574000	FARMERS COOP ASSOC 35 E SOUTH STREET FREDERICK	T	31	8/29/1996	5	5 29	WISNER STREET	418 959	FREDERICK
FR940088	686000 574000	FARMERS COOP ASSOC 35 E SOUTH STREET FREDERICK	T	35	8/29/1996	5	5 30	WISNER STREET	418 959	FREDERICK
FR940089	686000 574000	FARMERS COOP ASSOC 35 E SOUTH STREET FREDERICK	T	40	8/29/1996	5	5 30	WISNER STREET	418 959	FREDERICK
FR940090	686000 574000	FARMERS COOP ASSOC 35 E SOUTH STREET FREDERICK	T	40	8/29/1996	5	5 25	WISNER ST	418 959	FREDERICK
FR884911	686000 574000	RUMMELKLEPPERANDKAHL 81 MOSHER STREET BALTIMORE	T	25	2/7/1996	15	15 25	WATER STREET	CSX RAILROAD 418	FREDERICK
FR883490	686000 576000	FREDERICK GAS CO 350 E CHURCH ST FREDERICK	T	18	5/20/1993	8	8 18	E CHURCH ST		FREDERICK
FR940091	686000 574000	FARMERS COOP ASSOC 35 E SOUTH STREET FREDERICK	T	35	8/29/1996	5	5 32	WISNER STREET	418 959	FREDERICK
FR880392	685000 576000	CHICKEN MAN 306 EAST PATRICK ST FREDERICK	T	19	3/30/1989	6	6 19	WATER ST		FREDERICK

Permit #	East Coord / North Coord	Owner / Address / City	Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top/ Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
			Well Information							
FR880393	685000 576000	CHICKEN MAN 306 EAST PATRICK STR FREDERICK	T	16	3/31/1989	4	4 16	WATER ST		FREDERICK
FR880394	685000 576000	CHICKEN MAN 306 EAST PATRICK ST. FREDERICK	T	19	3/30/1989	3	3 19	WATER ST.		FREDERICK
FR883489	686000 576000	FREDERICK GAS CO 350 E CHURCH ST FREDERICK	T	22	5/20/1993	7	7 22	E CHURCH ST		FREDERICK
FR882834	685000 575000	BELL OIL 5922 URBANA PIKE FREDERICK	T	90	3/20/1992	24	24 34	URBANA PIKE		FREDERICK
FR884165	685000 575000	MDE 2500 BROENING HIGHWA BALTIMORE	T	26	8/10/1994	5	5 25	306 E PATRICK ST	418 2 120	FREDERICK
FR883493	686000 576000	FREDERICK GAS CO 350 E CHURCH ST FREDERICK	T	25	5/20/1993	10	10 25	E CHURCH ST		FREDERICK
FR880390	685000 576000	CHICKEN MAN 306 EAST PATRICK ST FREDERICK	T	19	3/29/1989	7	7 19	WATER ST		FREDERICK
FR883491	686000 576000	FREDERICK GAS CO 350 E CHURCH ST FREDERICK	T	25	5/20/1993	10	10 25	E CHURCH ST		FREDERICK

Permit #	East Coord / North Coord	Owner / Address / City	Well Information: Use of Water	Total Depth	Completion Date	Casing Depth	Screen Top/ Bottom	Nearest Road	Subdivision / Tax Map / Block / Parcel	Nearest Town
FR883942	684000 576000	PHOENIX INC 46 CARROLL STREET FREDERICK	T	15	4/12/1994	2	2 15	SAGNER AVENUE		FREDERICK
FR883943	684000 576000	PHOENIX INC 46 CARROLL STREET FREDERICK	T	9	4/12/1993	7	7 9	SAGNER AVENUE		FREDERICK
FR883944	684000 576000	PHOENIX INC 46 CARROLL STREET FREDERICK	T	16	4/12/1994	3	3 16	SAGNER AVENUE		FREDERICK
FR883945	684000 576000	PHOENIX INC 46 CARROLL STREET FREDERICK	T	10	4/14/1994	3	3 10	SAGNER AVENUE		FREDERICK
FR883972	684000 576000	PHOENIX INC 46 CARROLL STREET FREDERICK	T	15	4/15/1994	2	2 15	SAGNER AVENUE		FREDERICK
FR883492	686000 576000	FREDERICK GAS CO 350 E CHURCH ST FREDERICK	T	20	5/20/1993	5	5 20	E CHURCH ST		FREDERICK

ATTACHMENT E

Site Photographs

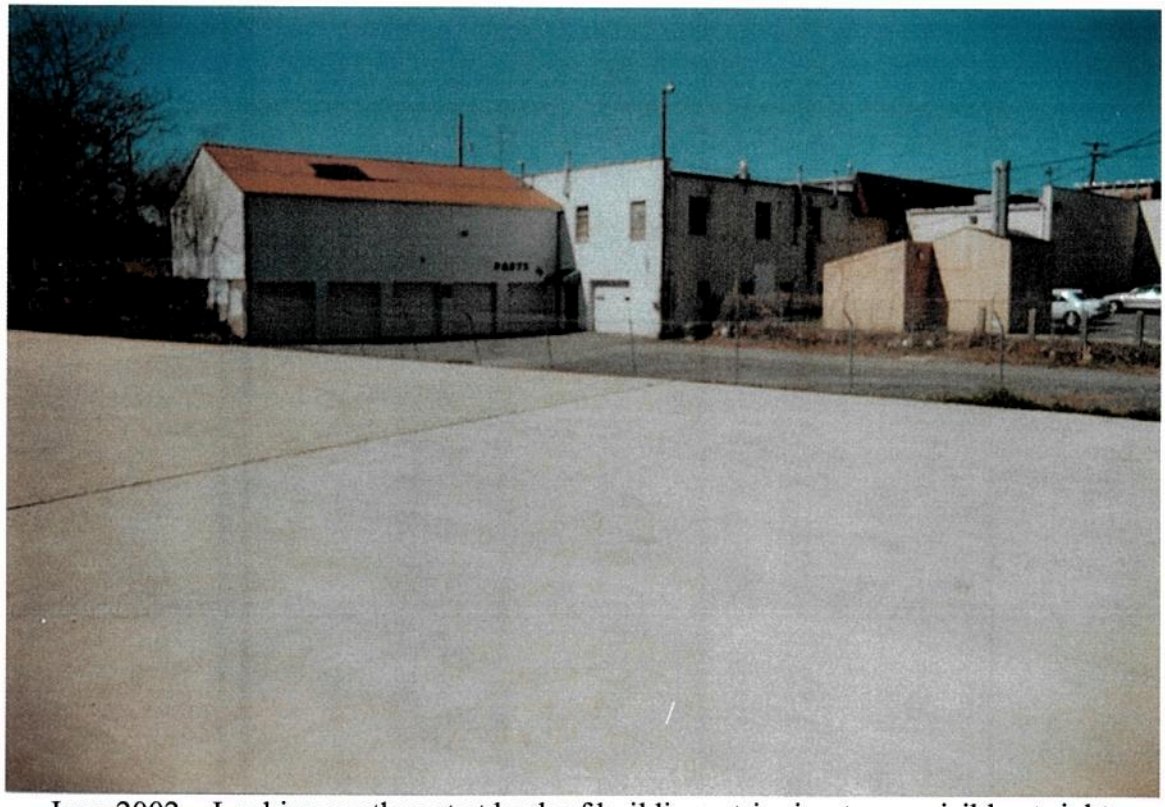


June 2002 – Looking South

June 2002 – Looking east down East Patrick Street

June 2002 – Looking north along East Street Extension

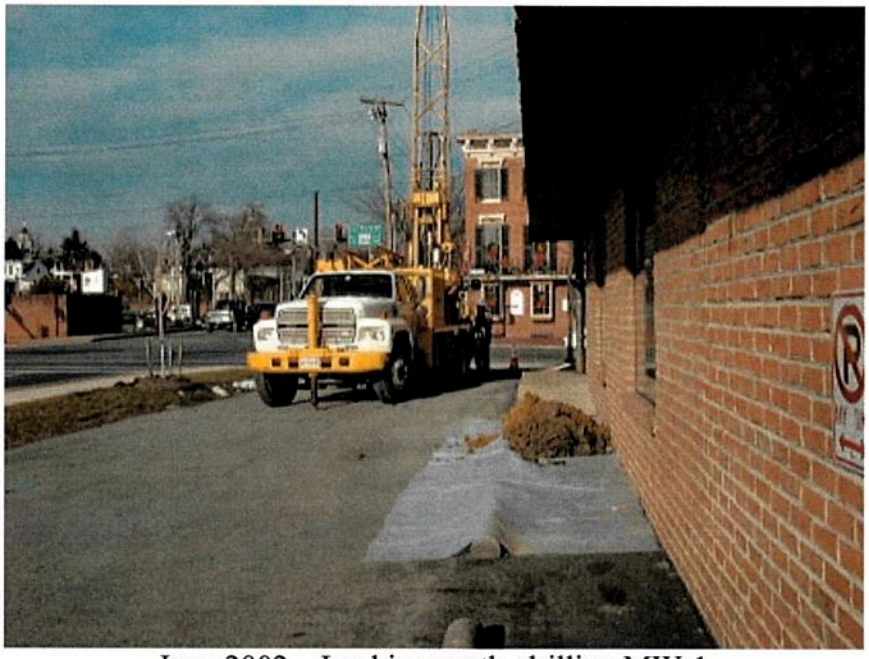
June 2002 – Looking northeast at back of building



June 2002 – Looking northwest at back of building, stripping tower visible at right.

June 2002 – Looking west at back of building

December 2002 – Looking west, drilling MW-1.



June 2002 – Looking north, drilling MW-1

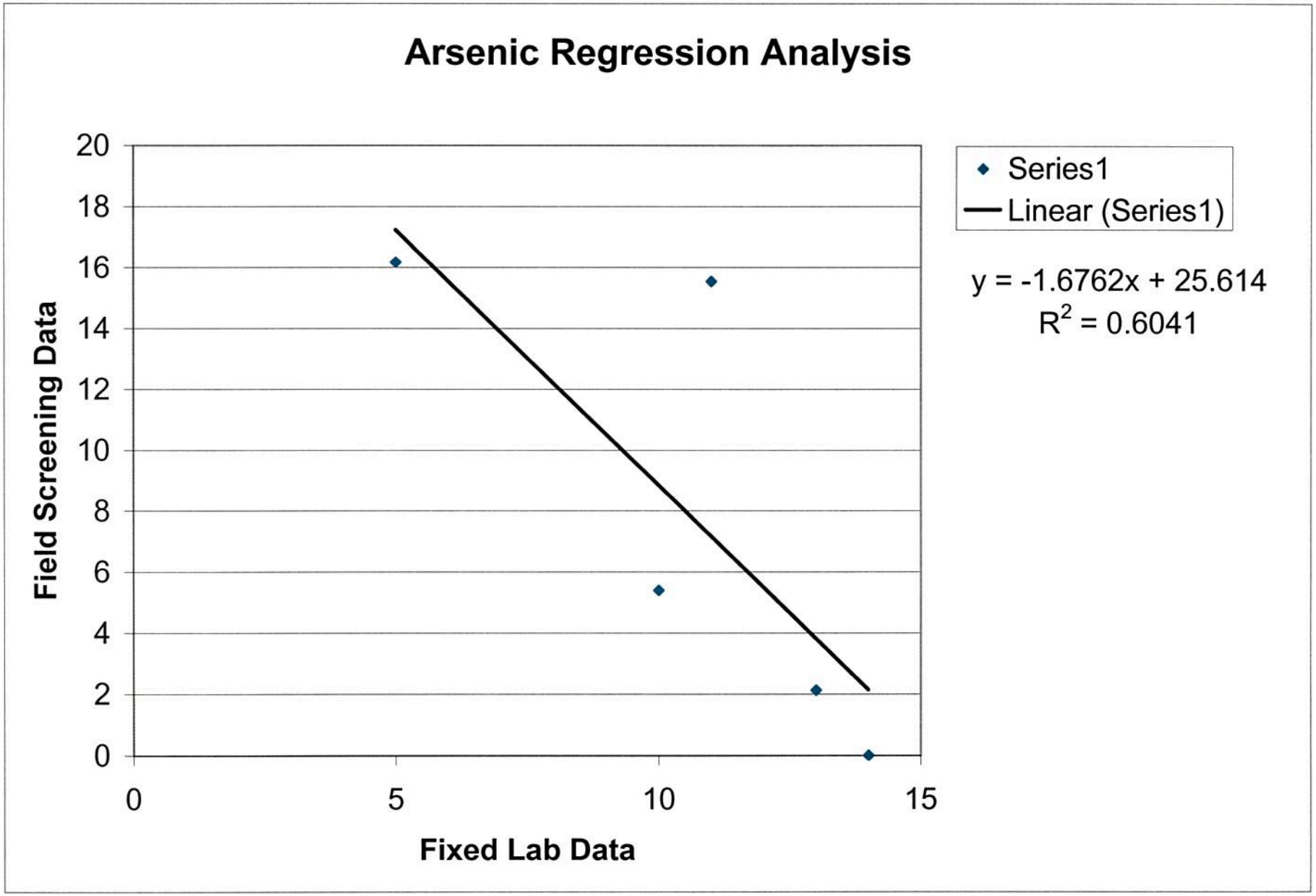
ATTACHMENT F

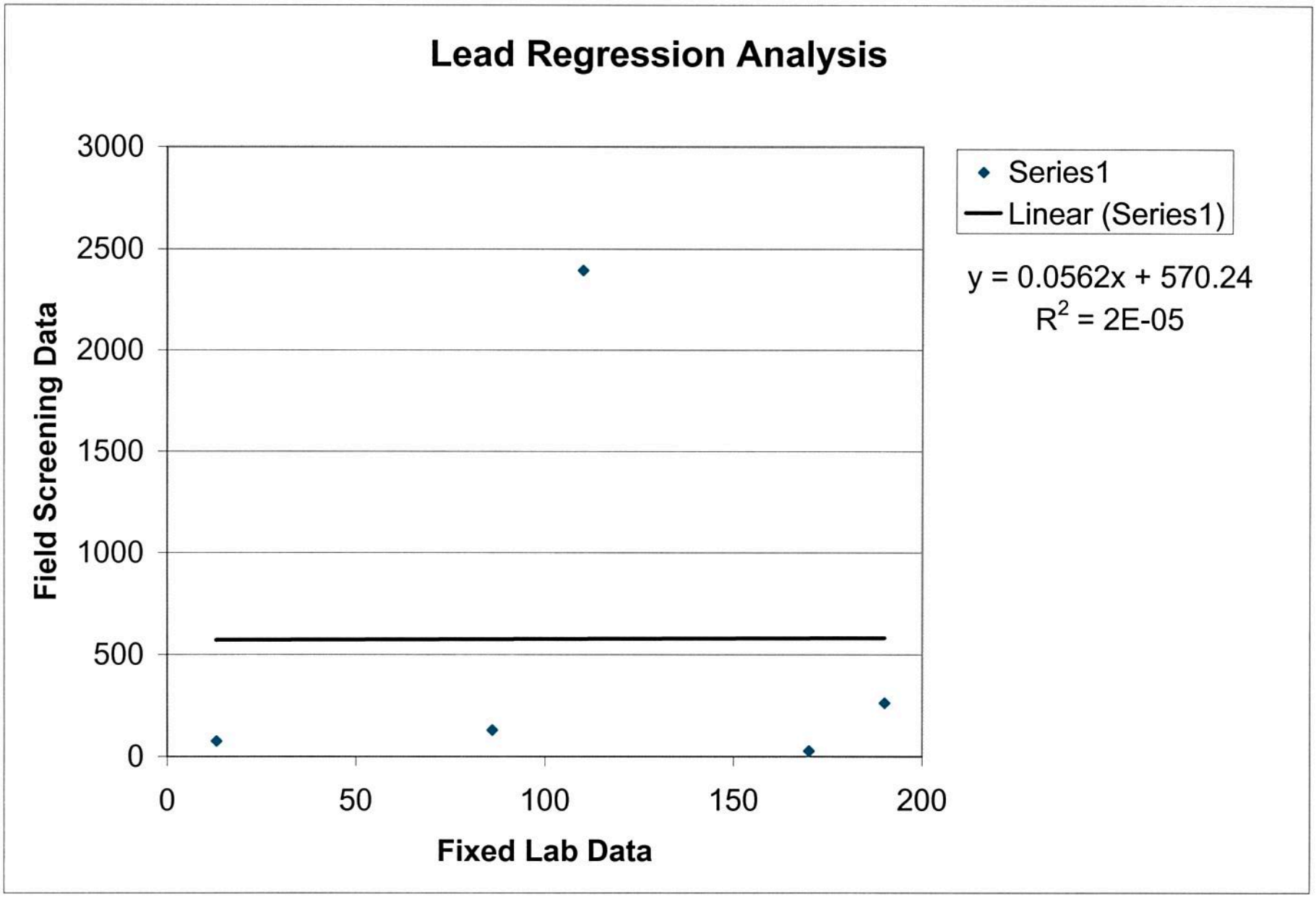
Regression Analyses

Coincident Metals Data
Frederick, Site I

		MARTEL	MARTEL	MARTEL	MARTEL	MARTEL		
Analyte	Class	FS-3	FS-4	FS-7	FSS-4	FSS-7	Max	Average
Arsenic	Met	5	11	13	14	10	14	10.6
Beryllium	Met	1.3		0.82	1.2	1.2	1.3	1.13
Cadmium	Met	0.1	0.4	0.96	0.13	0.96	0.96	0.51
Chromium	Met	26	11	13	20	18	26	17.6
Copper	Met	21	39	41	23	65	65	37.8
Lead	Met	13	190	170	110	86	190	113.8
Manganese	Met	160	300	280	1000	1500	1500	648
Mercury	Met	0.27	1.5	0.62	1.1	0.71	1.5	0.84
Nickel	Met	24	ND	9.6	8.8	10	24	13.1
Selenium	Met	ND	1.9	0.77	0.6	ND	1.9	1.09
Silver	Met	0.4	ND	ND	0.17	ND	0.4	0.285
Thallium	Met	0.22	ND	0.29	ND	ND	0.29	0.255
Zinc	Met	54	190	250	73	270	270	167.4

		Field	Field	Field	Field	Field		
Analyte	Class	FS-3	FS-4	FS-7	FSS-4	FSS-7	Max	Average
Arsenic	Met	16.17	15.542	2.125	0	5.393	16.17	7.846
Beryllium	Met	NR	NR	NR	NR	NR		
Cadmium	Met	0.46	2.742	0.486	1.688	1.148	2.742	1.3048
Chromium	Met	99.04	91.953	52.546	85.057	60.956	99.04	77.9104
Copper	Met	50.11	103.149	14.041	46.989	35.744	103.149	50.0066
Lead	Met	75.21	261	26.428	2391.59	128.964	2391.59	576.6392
Manganese	Met	461.29	653.082	175.307	1049.61	934.214	1049.61	654.6998
Mercury	Met	ND	ND	ND	ND	ND		
Nickel	Met	18.57	54.539	8.897	32.813	16.336	54.539	26.231
Selenium	Met	0.71	1.652	1.109	ND	ND	1.652	1.157
Silver	Met	3.63	ND	1.623	ND	3.196	3.63	2.816333
Thallium	Met	0.55	0.232		1.765	0.273	1.765	0.705
Zinc	Met	26.24	434.978	56.027	182.203	321.818	434.978	204.2532


Arsenic Regression Analysis
Field Screening Data
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
Fixed Lab Data
Series1
Linear (Series1)
y = -1.6762x + 25.614
R2 = 0.6041


Lead Regression Analysis
Field Screening Data
3000
2500
2000
1500
1000
500
0
0
50
100
150
200
Fixed Lab Data
Series1
Linear (Series1)
y = 0.0562x + 570.24
R2 = 2E-05